

# Manufacturers Record

Industry Construction

Reg. U. S. Pat. Office



BALTIMORE, MD.

JANUARY 14, 1932

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## Progress

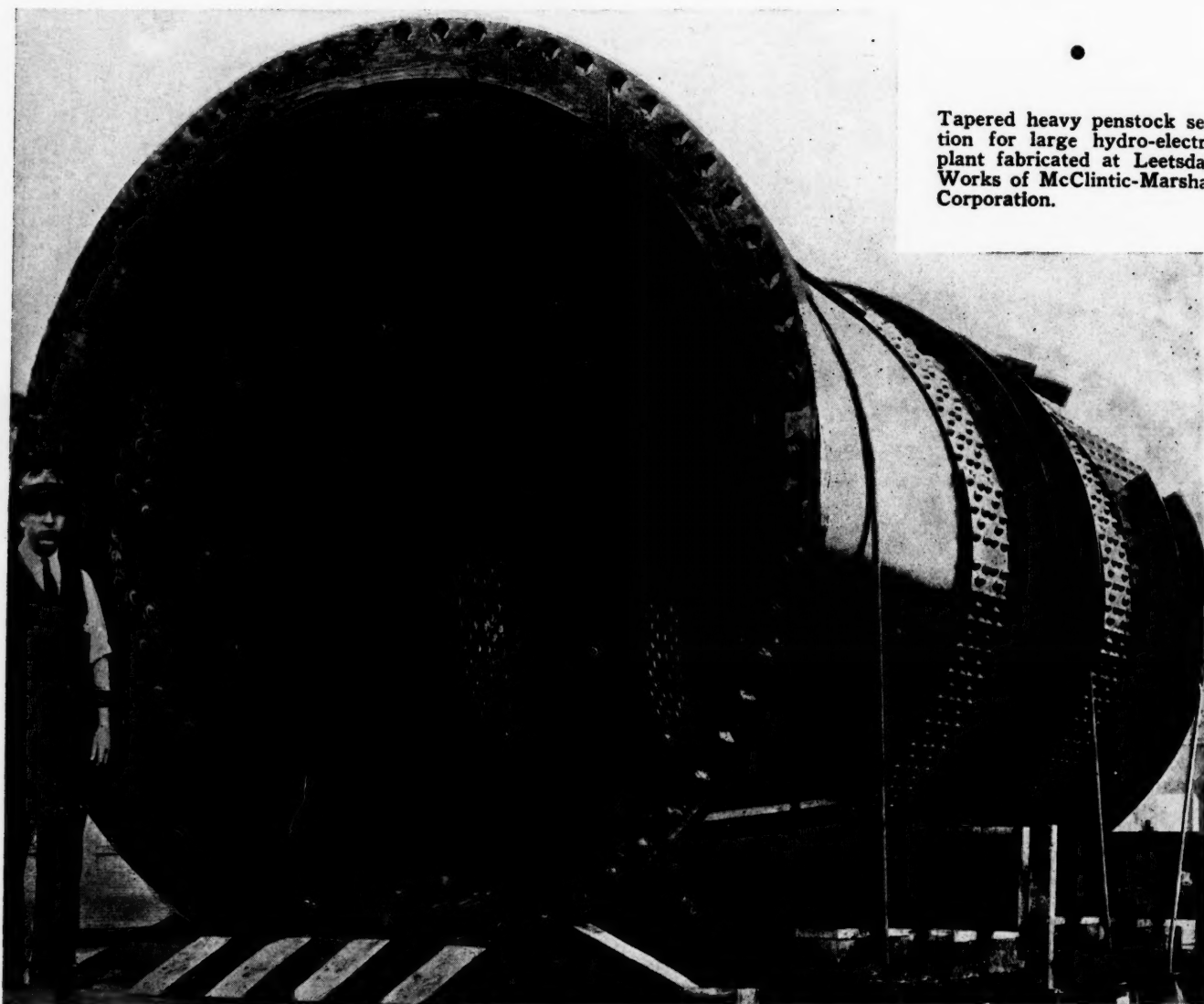
An encouraging story appears on another page of this issue—a story of progress in a year of depression, a story of vision and of accomplishment that should be closely read and remembered for the inspiring news it conveys.

During 1931, with industry generally at a low ebb and gloom prevailing, with security prices that unfortunately have not reflected true values, almost duplicating the great decline of the year before, the South instituted and finished development enterprises aggregating \$850,000,000.

This is a figure that would claim attention even in active times, because as a matter of fact it is only one-third less than in the highest year of record, but it is an especially notable figure in a year when pessimism in many sections has far outrun optimism. It is capital for the development of enterprises that are based on recognition of the fundamental, unequalled resources of the Southern states.

The story tells of projects by many firms known to the nation, of important chemical industries, the building of networks of oil and gas lines to carry fuel to far-away states. It tells of railroad work so largely confined to the South in 1931, of construction and engineering projects, of highways, spillways, power plants and improvements that will make for greater progress in established industries of various kinds.

We commend to every reader of this publication a story that should make a material contribution to our confidence in the inherent strength and future prosperity of America.



Tapered heavy penstock section for large hydro-electric plant fabricated at Leetsdale Works of McClintic-Marshall Corporation.

## STEEL PLATE CONSTRUCTION

Long experience and modern fully-equipped plants enable McClintic-Marshall to handle promptly and efficiently the design, fabrication and erection of all types of steel plate construction.

McClintic-Marshall Steel Stand Pipes, Stacks, Surge Tanks, Oil Tanks, Gas Holders and High-Pressure Cylinders as well as similar products made of steel plate are fabricated and erected by a skilled force of steel plate specialists who have set a standard of workmanship that is unsurpassed.

**McCLINTIC-MARSHALL CORPORATION**  
Subsidiary of Bethlehem Steel Corporation



General Offices: Bethlehem, Pa.

District Offices in New York, Boston, Philadelphia, Baltimore, Pittsburgh, Buffalo, Cleveland, Cincinnati, Detroit, Chicago, St. Louis, San Francisco, Los Angeles

Export Distributor: Bethlehem Steel Export Corporation, New York City

# McClintic-Marshall



Our Hay Works at Newark, N. J., is advantageously located to execute promptly orders for light steel plate work in the Metropolitan area. Quick delivery of fabricated parts to the erection site is but one of many economies afforded by this favorably located plant.





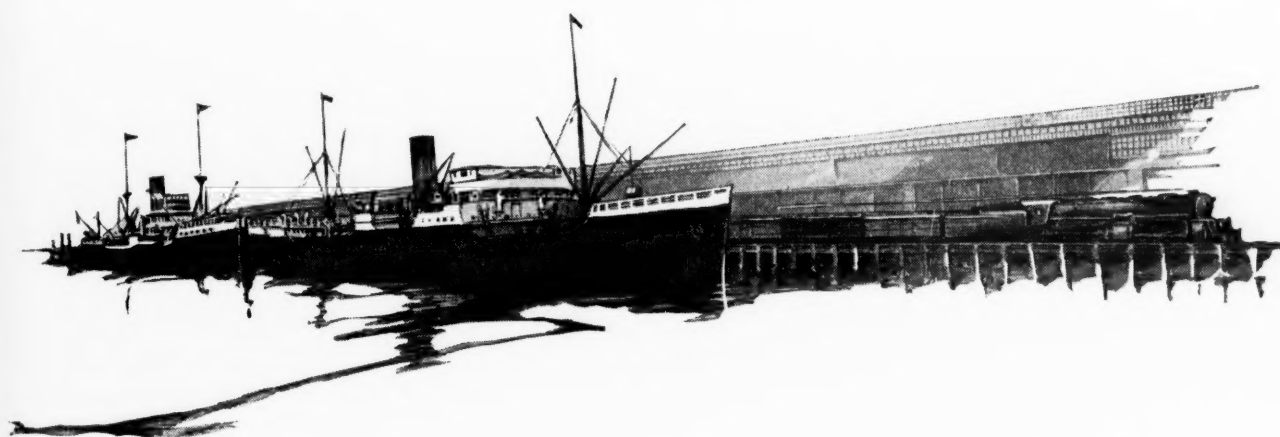
## AS HUMID AS AUGUST OR AS FROSTY AS DECEMBER

Shippers and receivers of freight know that certain commodities are affected in various ways by uncontrolled temperature and humidity, either from within or without. But with the introductions of modern appliances to regulate heat and moisture, the Norfolk and Western Railway placed huge sections of its modern warehouses at the Port of Norfolk (Lambert Point), Va., under temperature and humidity control. These devices are of the latest type and have, throughout the year, effectively demonstrated their value. Be the weather as humid as August or as frosty as December, a touch on the controls

produces the temperature desired. Your cargo, after storage at the Port of Norfolk, comes on the market in the pink of condition.

Moreover, the freight handling facilities of the Norfolk and Western Railway at Norfolk include every tested modern device for the quick, safe, economical transfer of freight from car to ship and vice versa. Its dependable trains arrive and depart "on time" - and its services to shippers and receivers of freight are humanized by an intensively trained personnel; and characterized by modern freight-carrying equipment and adequate power.

Representatives of the railway's Foreign Freight Department, located in the cities shown below, will welcome an opportunity to aid you - and to inform you as to rates, routes and service.



# NORFOLK AND WESTERN RAILWAY

## FOREIGN FREIGHT DEPARTMENT

NEW YORK   NORFOLK   CHICAGO   CINCINNATI   SAN FRANCISCO

**ELECTRIC STEEL CASTINGS***Weighing from 1 lb. to 500 lbs. each*

Quantity Production A Specialty

Nickel, Chrome and Other Alloy

Quick Delivery

Inquiries Solicited

**CRUCIBLE STEEL CASTING COMPANY**

LANSDOWNE, DELAWARE COUNTY, PA.

**The Cincinnati Steel Castings Co.****Electric Process  
OFFICE AND WORKS**Spring Grove, Alabama and Bates Avenues  
Cincinnati, Ohio**ALLOY IRON & STEEL CASTINGS**

WE MAKE A SPECIALTY OF

**HIGH GRADE GREY IRON AND  
SEMI-STEEL CASTINGS**All Kinds of Machine Work.  
Prices Will Suit You.Special Machines Made to Order.  
Prompt Service.

Salem Foundry &amp; Machine Works

Salem, Va.

**DIETRICH BROTHERS**Structural and Ornamental Iron and Steel Works  
Large Stock of Standard and Bethlehem Shapes**CONCRETE REINFORCEMENTS  
BALTIMORE, MD.****BELMONT IRON WORKS**PHILADELPHIA NEW YORK EDDYSTONE  
Southern Sales Offices, Charlotte, N. C.

Engineers Contractors Exporters

**Structural Steel**

Shop and Field Welded Steel Buildings

**ROANOKE IRON & BRIDGE WORKS, Inc.****Structural and Ornamental Iron  
Wrought Steel Fences**

Steel Bridges

Jail Cells

Write for Estimates

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BRICK—CHIMNEYS—CONCRETE

**BOILER BRICKWORK****The Rust Engineering Co.**

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PITTSBURGH—WASHINGTON—NEW YORK—CHICAGO

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The Earle Gear &amp; Machine Co.

4719 Stanton Avenue,  
Philadelphia, Pa.110 State St., Boston, Mass.  
95 Liberty St., New York CityCut Spur, Bevel, Herringbone,  
and Worm GearsAll sizes. Every description. Oper-  
ating Machinery for Bridges, etc.  
"Lee Simpler" Cold Metal Saws.**GEARS****THE PHOENIX IRON CO.**

MANUFACTURERS OF OPEN HEARTH

**Structural Steel Shapes, Beams,  
Channels, Angles, and Ship Shapes**

Works: Phoenixville, Pa.

Main Offices: Philadelphia, Pa.

**OFFICES:**22 S. 15th St., Philadelphia  
Munsey Building, Washington30 Church St., New York  
110 State St., Boston  
City Savings Bk. Bldg., Albany, N. Y. 26 Victoria St., London**THE PHOENIX BRIDGE CO.****Engineers, Fabricators, and Erectors  
Bridges and Other Structures of Steel**

CAPACITY 60,000 TONS

Works and Engineering Office:

Phoenixville, Pa.

**PERFORATED METALS HEADQUARTERS**

Cotton Seed Oil Works a Specialty

Send for Samples

ERDLE PERFORATING CO.

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**PERFORATED METAL SCREENS****MUNDT PRODUCTS**embody a degree of perfection derived from 43 years  
manufacturing perforated metals.We will give you the benefit of this experience.  
Consult us before placing your order.**CHARLES MUNDT & SONS**

490 JOHNSTON AVENUE, JERSEY CITY, N. J.



No. 1



No. 3

**MANHATTAN  
PERFORATED METAL CO., INC.**

43 17-37th Street, Long Island City, N. Y.

**PERFORATORS**of All Kinds of Metals for All Industries  
Write for Copper, Brass, Tin, Zinc or  
Aluminum Catalog

No. 7



No. 22

**CONTRACT MACHINE WORK****Parts and Complete Machines  
Heat Treating and Grinding**

Mail blue prints for quotations

**GENERAL MACHINE WORKS  
YORK, PA.****GALVANIZING HOT DIPPED  
PROCESS**The largest job galvanizing plant in the United States  
**GALVANIZED PRODUCTS FURNISHED****JOSEPH P. CATTIE & BROTHERS**

PHILADELPHIA, PA.

**GALVANIZING**

Hot Dip Process

Distinctive Service

Quality Work

Individual Attention

Adequate Facilities

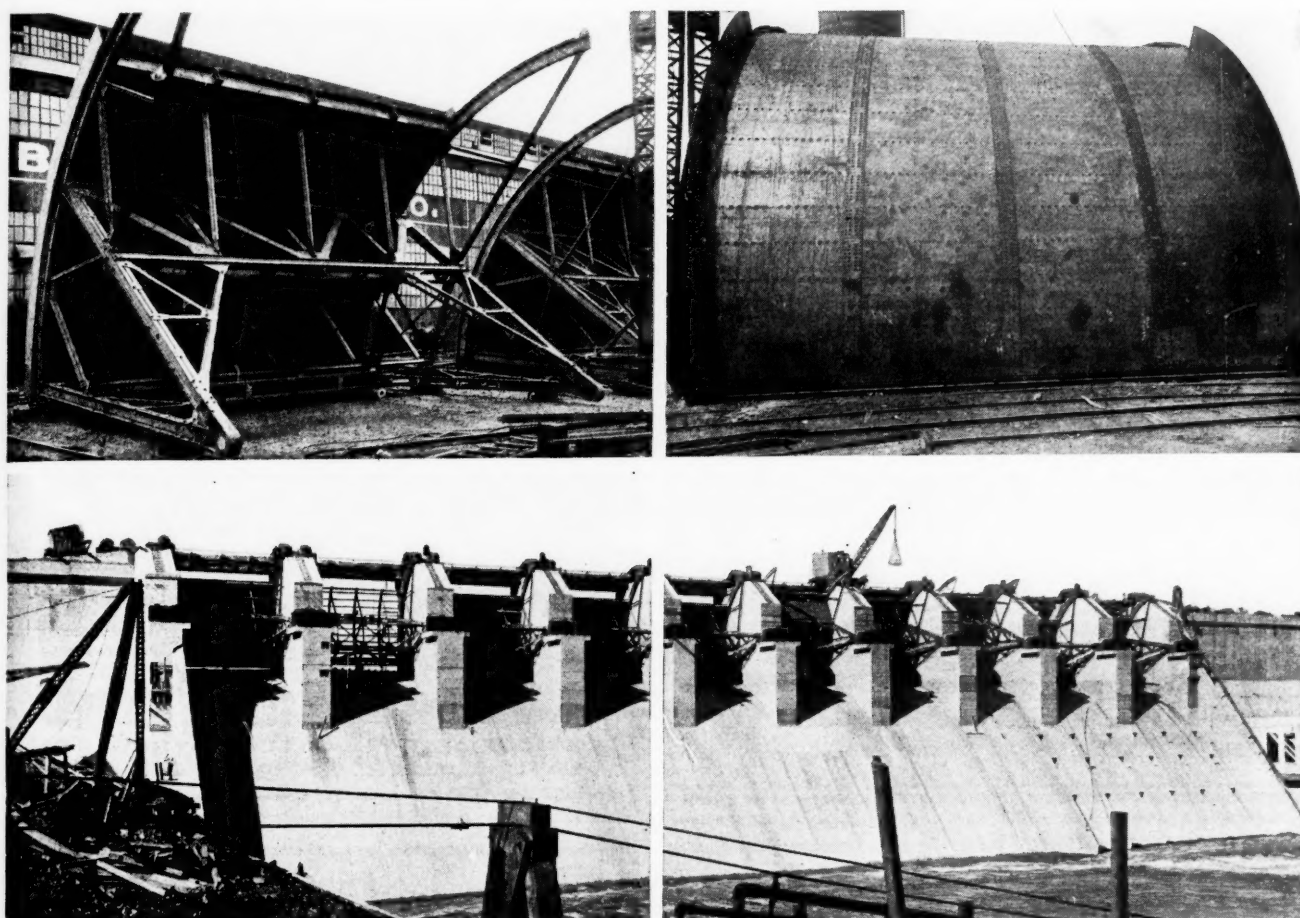
Inquiries Also Solicited for Galvanized Material

**ENTERPRISE GALVANIZING CO.**

2501-29 E. Cumberland St., PHILADELPHIA, PA.

Phones: Regent 2479-2480

## Care in the Shop Avoids Trouble on the Job



### FITTED FOR THE JOB

Upper pictures show Taintor Gates being assembled and fitted together in our Memphis Plant. We manufactured 10 of these for the Carpenter Dam on Ouachita River, Hot Springs, Ark., built by Phoenix Utility Co., Engineers, for Arkansas Power & Light Co. Lower picture shows Carpenter Dam with gates in place.

Taintor Gates, as they are called, control the water elevation in dams. They must fit true and close for water-tightness and ease of operation. And then they have to stand considerable pressure. All of which calls for an exact job of manufacture.

We have built many taintor gates, sluice gates, intake gates, in fact all kinds of steel-work for dams and power projects. Which we mention here as evidence of our widely varied experience and ability.

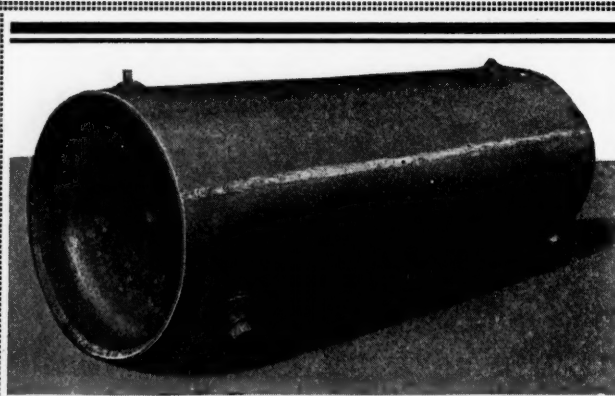
# VIRGINIA BRIDGE

## Steel Structures

**VIRGINIA BRIDGE & IRON CO.**  
Roanoke, Birmingham, Memphis, Atlanta, New Orleans  
New York, Los Angeles, Charlotte, Dallas, El Paso

Plants at Roanoke—Birmingham—Memphis





Air receiver welded by "shielded-arc" method

## "AVAILABILITY" of Steel Plate Work—

Location is an important factor in all around availability of steel plate work—

Here in Downingtown, close to America's steel centers, is a modern plant, equipped to make virtually anything of steel plate, directly to your specifications, and certain classes of erection work in the field.

Fabrication includes welded or riveted construction, or ordinary carbon steel, chromium iron and chrome nickel alloys, Everdur, Aluminum, and modern nickel-clad steel. We are "pioneers" in chrome, having experts dealing with the corrosion-resistant problems of industry. WRITE US regarding your steel plate problems.

**DOWNINGTOWN**  
Pioneers in Chrome Iron Works  
General Office and Works: Downingtown, Pa.  
New York Office: 30 Church Street



## Steel Plate Construction

Birtank special plate fabrication covers every type of construction for the chemical and process industries, oil refineries, and general industrial use. We fabricate steel plate work to customer's own design and specifications. The wide and varied experience of our designing engineers is available to customers without cost.

Our manufacturing facilities are modern and adequate to handle almost any type or size of job. Inquiries are solicited and quotations are promptly made. Birmingham Tank Company, Birmingham, Ala., or Verona, Pa.

**Birmingham Tank**  
DESIGNERS • FABRICATORS • ERECTORS  
PLATE AND STRUCTURAL STEEL WORK

## ♦ C O L E ♦



### 500,000 Gallon Tank

erected for City of St. Petersburg, Fla. Cole tanks both in design and workmanship offer very distinctive advantages. They embody the most revised requirements of all insurance authorities.

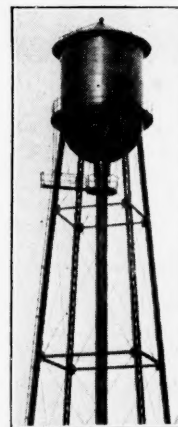


**R. D. COLE MANUFACTURING CO.**

Established 1854

NEWNAN, GA.

New York Office,  
5 Beekman St.



## SOUTHLAND PRODUCTS

STAND PIPES  
SMOKE STACKS  
TOWERS and TANKS  
STEEL RIVETED  
PIPE

Chattanooga Boiler & Tank Co.  
CHATTANOOGA, TENN.  
TANKS

## Iron and Steel Products

**BETHLEHEM STEEL COMPANY**  
General Offices: Bethlehem, Pa.

District Offices: New York,  
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more, Washington, Atlanta,



Pittsburgh, Buffalo, Cleveland,  
Cincinnati, Detroit, Chicago,  
St. Louis.

Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco,  
Los Angeles, Portland, Seattle, Honolulu.

**BETHLEHEM**

# TANKS

to comply with most rigid requirements

**W**E manufacture Elevated Steel Tanks for Water Storage for use in municipal water works plants and private manufacturing plants and mills.

Our shop ranks with the best in the country for the production of Tanks, Towers and Stand-pipes.

We design structures that will comply with the most rigid insurance requirements.



We also manufacture

Pumps  
Acid Tanks  
Dredge Pipe  
Incinerators  
Rotary Dryers  
Steel Buildings  
Steel Plate Work  
Municipal Castings  
Grey Iron Castings  
Boilers and Engines  
Steel Storage Tanks  
Seed and Grain Tanks



**J. S. SCHOFIELD'S SONS CO., INC.**  
Macon, Georgia, U. S. A.

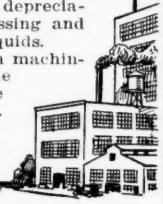
## DAVIS CYPRESS TANKS

Some especially desirable attributes must surround Davis Tanks—when you realize that leading manufacturers and railroads of the South have bought them repeatedly for 42 years. In truth, there are two reasons:

1. Cypress is unequalled for durability, low depreciation and varied usefulness in storage, processing and handling chemicals and other liquids.
2. Davis tanks, built by modern machinery and skilled men, can be made to fit any factory need, in any size and shape. Catalog on request.



**G. M. DAVIS & SON**  
P. O. Box 5, Palatka, Florida



## BOILERS SAW MILLS

Largest Works of the Kind in the South

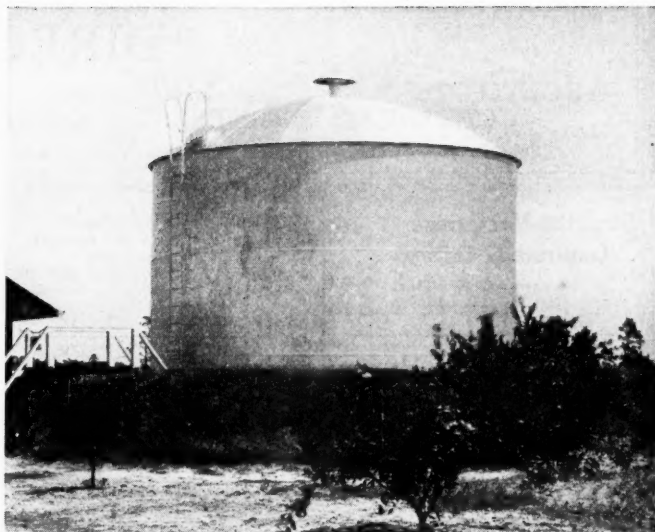
Engines—Pumps—Boiler Tubes—Grate Bars—Castings

**LOMBARD IRON WORKS & SUPPLY CO.**  
AUGUSTA, GA.

Reinforcing Bars—Structural, Bar and Sheet Steel  
Pipes and Repairs Belting—Packing

## TANKS STACKS

**TITUSVILLE** POWER AND  
THE HEATING BOILERS  
TITUSVILLE  
IRON WORKS CO. FOR ALL  
TITUSVILLE, PENNA. INDUSTRIAL REQUIREMENTS



## OIL STORAGE TANKS

### Protect Florida Fruit

Florida fruit growers protect their crops by placing oil heaters in their orchards and lighting them when the temperature drops low enough to damage the fruit. In order to have an adequate supply of oil on hand at all times, storage tanks like the one illustrated above are located in the orchards.

Reserve oil storage is essential. Heating may not be required for several years and then all of a sudden there may be successive damaging frosts. Heaters ordinarily hold only enough to burn one night and must be filled immediately after being used to provide continuous protection



Orchard at the Marianna Fruit Co's Chipola farm showing oil heaters in place. There are 60 per acre. The oil storage tank illustrated above contains 50,000 gallons.

B-275

We build storage tanks in a complete range of standard sizes. Cylindrical tanks are riveted-up or welded in the shop and shipped complete. Flat-bottom tanks are erected in the field with our own experienced workmen. We also build smokestacks, elevated tanks, bins, retorts and steel plate work of all kinds.

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Dallas.....1208 Burt Building  
Houston.....1114 Electric Building  
Tulsa.....1411 Philcade Building  
New York.....3113 Hudson Terminal  
Cleveland.....2216 Midland Bank Building  
Chicago.....2106 Old Colony Building  
San Francisco.....1040 Rialto Building  
Havana.....Apartado 2507



# DIRECTORY

ARCHITECTS

ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

**Smallman-MacQueen  
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Engineers and Contractors  
BIRMINGHAM, ALA.

**J. B. Converse & Co., Inc.**  
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Industrial Investigations, reports,  
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MOBILE, ALA.

**Algernon Blair**  
Contractor  
MONTGOMERY, ALA.

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WASHINGTON, D. C.

**Milburn, Heister & Co.**  
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WASHINGTON, D. C.

**Hills and Youngberg**  
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Rail and Water Terminals  
River and Harbor Improvements  
Water Developments—Shore Protection  
Investigations and Reports  
21 Laura St., P. O. Box 1145  
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**Wm. J. J. Chase, A. I. A.**  
Architect  
Public and Commercial Buildings  
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Industrial Village Utilities  
ATLANTA, GA.

**G. Lloyd Preacher & Co., Inc.**  
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ATLANTA, GA.

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GREENSBORO, N. C.

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DISPOSAL, APPRAISALS, VALUA-  
TIONS, REPORTS  
Candler Building ATLANTA, GA.

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Industrial Engineers  
Mills, Warehouses, Complete Develop-  
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Established 1893  
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Engineering  
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Erectors of Transmission Lines  
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THOS. D. LEBBY  
Engineers and Constructors  
The design and erection of concrete and  
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Reports—Appraisals—Designs—Surveys  
Docks and Harbor Designs—Ind. Engr.  
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Hydraulic and Construction Engineers  
Dams a Specialty: Investigations,  
Estimates Free  
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Consulting Engineer  
Sewage Disposal Plants and Sewerage  
Systems—Utilization and Disposal of  
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Design, Construction, Operation, Labora-  
tory Service, Valuations and Reports.  
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MILWAUKEE, WIS.

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Charles James Metts  
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Certified Public Accountant of Georgia  
ATLANTA, GA.

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Sixteen Years Actual Experience

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GREENSBORO, N. C.

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Chemists and Inspecting Engineers  
Inspection of Cast Iron Pipe, Structural  
Steel, Cement, Railroad Equipment, etc.  
Chemical Analysis of all kinds.  
Representation in all Principal Cities  
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Mem. Am. Inst. Ch. Engrs.  
Mem. Am. Soc. Civ. Engrs.  
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Paving Materials  
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Chemists and Chemical Engineers  
Analysis and Inspection of Asphalt,  
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Building Materials.  
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BECKMAN 5261

FAMILIARIZE yourself  
with the SOUTH'S pro-  
gress by reading the MANU-  
FACTURERS RECORD.

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Carl Weber, Civil Engineer, President  
Seawalls—Bulkheads—Revetments  
"WEBER SYSTEM"  
JACKSONVILLE, FLORIDA.

## Hardaway Contracting Company

Engineers Contractors  
Water Power Developments, Bridges  
COLUMBUS, GEORGIA

## Cornell-Young Company

INCORPORATED  
General Contractors  
Railroads and Highways, Reinforced Concrete and Steam Shovel Work.  
704 Georgia Casualty Bldg. MACON, GEORGIA

## Byllesby Engineering & Management Corporation

Wholly-owned Subsidiary of  
Standard Gas and Electric Company  
231 South LaSalle Street, Chicago  
NEW YORK PITTSBURGH SAN FRANCISCO



# DIRECTORY

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CHEMISTS

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CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

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## The J. B. McCrary Company

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ATLANTA

GEORGIA

MUNICIPAL IMPROVEMENTS

We design and construct Water-Works, Electric-Light and Sewer Systems—Paving and Road Work.

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Consulting Engineer

INCINERATORS

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Plans—Specifications—Reports—  
Appraisals—for Industrial Plants

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Consultation Invited on Building Projects

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Difficult Foundations and Engineering Problems a Specialty

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New York

PHILADELPHIA

HAVANA

## The J. G. White Engineering Corporation

Engineers—Constructors

48 Exchange Place

NEW YORK

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Bank Architects and Builders

ALLENTOWN

PENNSYLVANIA

## J. E. Serrine & Company

Engineers

Factory Design: Hydro- and Steam-Electric Plants; Warehouses, Steam Utilization, Sewage Systems, Appraisals, Valuations, Reports.

General Offices: GREENVILLE, SOUTH CAROLINA

## WILEY & WILSON

Consulting Engineers

STEAM AND ELECTRIC POWER PLANTS

CENTRAL PLANT HEATING SYSTEMS

Heating and Ventilating Equipments for Public and Private Buildings

WATER SUPPLY, SEWERAGE AND SEWAGE DISPOSAL

MAIN OFFICE: LYNCHBURG, VA.

BRANCH OFFICE: RICHMOND, VA.

## Kennedy-Riegger Drilling Co., Inc.

Engineers &amp; Contractors

Diamond Drill &amp; Wash Borings

30 Church Street

NEW YORK CITY

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Diamond Core Drilling and Wash Borings.

For Buildings, Bridges, Dams and all kinds of Minerals

"ANYWHERE"

Main Office

SCRANTON, PA.

## Mott Core Drilling Company

Diamond Core Drill Contractors

We Test Coal, Clays and Mineral Properties, Foundation Testing, Dams, Bridges, Buildings, Wash Borings, Dry Samples.

MAIN OFFICE

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## Robert W. Hunt Company

ENGINEERS

Inspection—Tests—Consultation

Materials for Steel and Concrete Structures

General Offices and Laboratories

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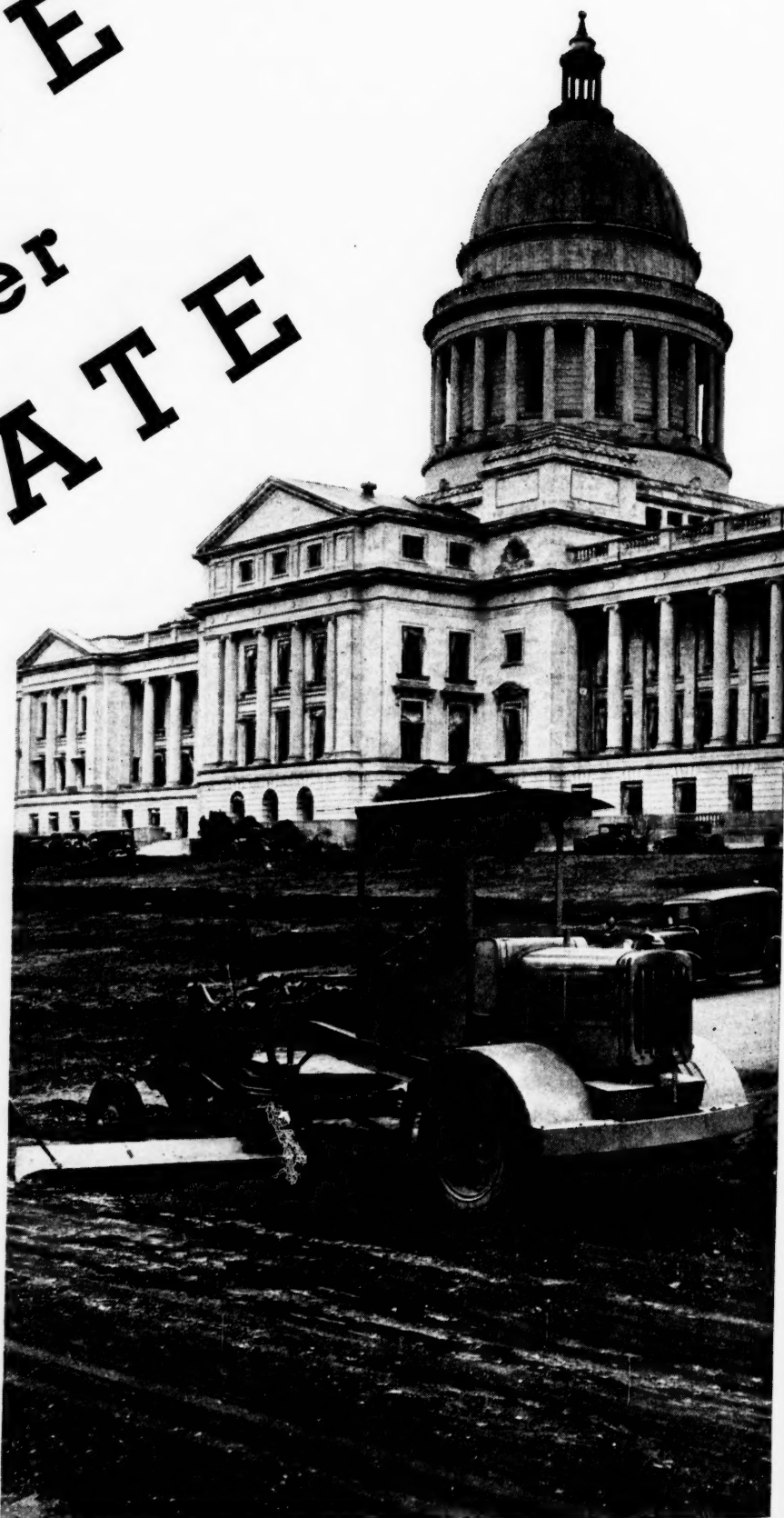
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Baltimore, Md., January 14, 1932

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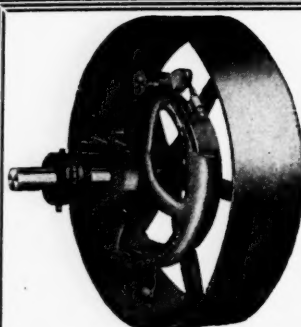
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# Manufacturers Record

Reg. U. S. Pat. Office

Devoted to the Upbuilding of the Nation Through the Development  
of the South and Southwest as the Nation's Greatest Material Asset

Vol. CI No. 2 {  
Weekly }

BALTIMORE, JANUARY 14, 1932

{ Single Copies, 20 Cents.  
\$6.50 a Year }

## Southern Construction \$850,000,000

FROM a compilation of reports published in the DAILY CONSTRUCTION BULLETIN and in the construction columns of the MANUFACTURERS RECORD, contracts awarded covering construction, building and engineering projects in the Southern States in 1931 had a total value of \$649,312,000. Considering those projects for which no cost figures were available and residential projects involving an expenditure of less than \$10,000 each, it is conservatively estimated that in 1931 construction in the South called for an expenditure of \$850,000,000. This is a decline of less than 30 per cent from the highest total value of record set when the building of pipe line systems alone accounted for more than \$250,000,000 of the total awards. Due consideration must be given, in making a dollars and cents comparison, to the reduced cost of building in 1931, variously estimated at 10 to 30 per cent.

While building activity was featured by projects undertaken with municipal, county, state and federal funds, privately financed structures for a variety of services were erected in many sections. For instance, the discovery in East Texas of what has been described as the nation's greatest oil pool, brought prosperity to a once quiet countryside and resulted in a veritable boom in that region. In the Kansas City area millions of dollars were put into new grain elevators and in additions to established elevators, and similar work was started at points in Oklahoma, Texas, Missouri and Kansas. St. Louis and Kansas City undertook formidable building programs, calling for the erection of hotels, apartment houses, residences of all types, railway terminal facilities, bank and office structures, storage warehouses and similar buildings. Oklahoma City, with a \$20,000,000 building program, provided several big hotels, at least three major bank and office buildings, a \$500,000 Y. M. C. A. building, a costly Union Station and other less important structures. Washington is in the midst of a

\$255,000,000 federal building program. Baltimore, due to the diversity of the city's industries, went forward with a volume of construction practically equal to that initiated in 1930.

In scanning building activity in the territory from Maryland to Texas, many additional well-known towns and cities could be mentioned, and a brief review of their respective building programs would suffice to indicate that the South in 1931 was carrying into effect a program of magnitude. The volume of work carried forward in a year when other sections drastically curtailed construction operations indicates that this section has felt the economic depression perhaps to a less degree than the rest of the country. Once again the South's business leaders and financial interests have reaffirmed their belief in the soundness of the nation's business structure and in the inherent possibilities of the South.

Numerous industrial plants inaugurated improvement programs to cut production costs, as well as in anticipation of larger future demands. Recognizing the advantages of the South as the location for a diversity of industrial operations, firms whose names stand high in the roster of our great industrial institutions last year established new plants to turn out products, some of which have not heretofore been produced in the South, or expanded plants erected in previous years. While these outside interests expended their millions, Southern capitalists put more millions into locally owned operations. Chemistry and research figure prominently in this industrial expansion. New chemical industries have been developed and activities heretofore centered in other sections of the country have been established on a large scale in the states from Maryland to Texas.

Noteworthy progress was made last year in expansion of the textile industry to include dyeing and finishing plants; in the further concentration of rayon production in this section; in the fuller development

of the naval stores industry; in establishment on a big scale of electrochemical industries in several states, and in utilization of the region's vast clay and mineral resources. Progress has been made toward the use of Southern woods in the production of high grade paper, and last year saw further growth in the kraft paper industry of the South. In the expansion of the petroleum and natural gas industry the chemical engineer is playing a leading role, and many new products are being turned out in such plants below the Mason and Dixon line.

The general industrial growth of the South in recent years has created a demand for other products, offering striking evidence that industry begets industry. Not only are the larger concerns of the country finding in the South a profitable field of development, but numerous opportunities for the small manufacturer have been utilized. Industry long concentrated in the populous centers is turning to the countryside, and the South is sharing in this decentralization movement.

A review of industrial and engineering projects of 1931 reveals that the electric power systems, the railroads, the telephone and telegraph companies and the concerns engaged in the distribution of artificial and natural gas, initiated work in volume. Moreover, during the year certain major undertakings, which were started at the height of the boom, were completed. Elsewhere in these pages a more detailed account of the construction work of 1931 is given.

So vast is the South, both in resources and in extent of territory, that even in a period of marking time for the nation at large, the falling off in one class of construction work in one section is more than made up by an equal or even greater effort and expenditure in a comparatively new line in another section. For example, a notable volume of work was represented in the building of the network of oil, gas and gasoline lines in 1930. A falling off last year in this class of work was in a measure compensated for by the speeding up of road-building and in the further development of air transport facilities. Southern towns and cities last year expended substantial sums for municipal airports, providing all that is newest and best in the way of hangars, administration buildings, repair shops, fueling depots, radio communication equipment, signaling and lighting devices. Also, the Government went forward with the work of lighting the Southern airways.

As time goes on, who can tell what new industries will be developed to take the place of those that have reached the peak of development or are even now being supplanted? It suffices to say that the South, with its vast undeveloped resources, offers untold opportunities. Based on its increased textile and leather goods manufacturing indications are that the South, as in 1920, will set the pace for the rest of the country in a resumption of business activity.

---

An enormous percentage of advertising is written to please the boss rather than to sell the public.—*Printers Ink.*

## The Way Out

IN summing up factors that will govern in the upturn of business, F. A. Merrick, president of the Westinghouse Electric and Manufacturing Company, says: "We have the certainty that the period of stress through which we are passing is laying the foundation for greater and sounder progress in the future."

This foundation consists in the revamping of present lines of production which is now under way in practically every industry. New and useful lines are being sought out, research is busy, manufacturing processes are being refined for higher quality and reduced cost, distribution means and methods are being analyzed, markets, both present and possible for development, are under close study. As a result of these developments cited by Mr. Merrick, he bases his belief that "industry will come out of the depression more fundamentally organized than ever before. This is the only way out. No nostrums will serve."

Mr. Merrick calls upon industry to "recognize this as a period of wholesome reconstruction," for he believes those accepting the situation in this light will be the ones to profit most largely. They will profit in the way of better returns from the actual business of the immediate present and still more largely in the future, when the efficiency and strength developed in making ends meet under adverse conditions can be applied to serving the enormous needs of this country and of the world when the dammed-up buying power is released.

As to the electrical industry and the activities of the Westinghouse Company, S. M. Kintner, vice-president in charge of engineering, shows that technical progress in 1931 continued its steady forward march. In the transportation field, the year produced the most important railroad electrification, the largest American built ocean liners, and the largest airship—new records for land, sea and sky in all of which electrical equipment played a prominent part. Electric passenger locomotives were ordered which will have the greatest power per driving axle of any ever built and which can haul trains 90 miles an hour. The Pennsylvania Railroad's electrification program between New York and Washington involves the largest single order of electrical equipment of its kind ever placed.

Central station power generation improvements and distant transmission of electricity 138 miles to St. Louis, together with the largest automatic water pumping plant at Baltimore were among the 1931 developments. Electricity has also helped industry to construct the most powerful of steel mills and to bore oil wells 10,000 feet deep for the first time. Paper mills capable of phenomenal production, and remarkable installation of electric furnaces are among other items of accomplishment by the electrical industry in 1931.

Therefore, as Mr. Merrick says: "The guarantee is obvious for a continued and increasing opportunity for business in the field of the service of electricity to these manifold uses as well as in the broad field of manufacture of electrical apparatus requisite in the



application of this service. The diversity factor is unparalleled as to both."

Other industries outside of the electrical field likewise have been revamping and developing their products and broadening their services which will place them in a sounder position to participate to the fullest in the revival of trade.

## Advertising As a Restorative

THE advantages accruing from sound and continuing advertising are set forth by the San Antonio Express on the experience of its home city in Texas. In its city advertising, as in other respects, the Express says that San Antonio is building for tomorrow; "for, certainly, the workings of economic law will restore prosperity, and the community that diligently prepares will reap the greater benefits."

This comment on the value of advertising, "sound and continuing" on the part of a municipality, is equally applicable to all business.

Least of all is advertising to be curtailed or abandoned in time of economic stress, in the opinion of Ernest Elmo Calkins, internationally recognized as an authority on advertising. The depression, he asserts, "has been deeper and has lasted longer because advertising was not employed as it should have been to bring back a reluctant people to buying" and concludes:

"Advertising has not lost its power. These are the same people who were enthusiastic customers two years ago. They still must live. We got them to buy with advertising when money was plentiful. Do we expect them to buy without advertising when money is scarce?"

A great factor in the revival of business, Mr. Calkins feels, is for each and every concern to restore its own business, and in this effort, as he rightly says, advertising has not lost its power.

## Cotton Manufacturing Expectations

THE textile industry of the South has been one of the few industries to show a gain in activity compared with 1930. Prediction was made a year ago that cotton manufacturing would be the first to head out of the depression; and the monthly record of cotton consumption and spindle activity of the Southern mills indicates that a slow and steady progress is being made. There are weak spots still remaining in too much production in certain branches of the industry and small profits due to continued low prices.

The main point is that 1931 was a better year for the industry than 1930. Depleted stocks in the hands of distributors and merchants, and reduced supplies of the products of cotton in the hands of the ultimate consumer offer encouragement for increased activity in cotton manufacturing in the coming months.

## Floods Again!

HEAVY rains and floods along the lower Mississippi tributaries again imperil large areas and human life. While the danger of recurring floods is ever present this nation with all its engineering resources and wealth has been "pecking at the job" and spending most of its time debating the merits of various plans for relief. It does seem that greater progress could have been made in flood control since the disaster of 1927. At that time the nation was aroused. Shall it require another major disaster along the Mississippi to force the speeding up of protective measures against these periodical inundations?

Appropriations have been made for various flood control projects at scattered points and the Army engineers have been carrying forward the work to the best of their ability under the limitations of the plans adopted and the money at their disposal.

It is to be hoped that Congress in the multiplicity of problems facing it this session will give serious thought to the necessity of broadening and speeding up flood control work along the Mississippi and its tributaries.

It is a constructive opportunity and an urgent need. Greater protection of a vast inland area and its people and the creation of employment for hundreds of thousands of idle workers are ample reasons for immediate aggressive action being taken.

## Eloquent Figures on Taxation

WE publish chiefly for its informative value the subjoined computation by United States Senator Metcalf:

"One-seventh of the adult population is supported wholly or partially by taxation, and the number is increasing daily. \* \* \* Federal employees of all classes number 988,000 persons. \* \* \* There has been an increase of some 6000 federal employees in the last year."

Estimating the number of persons supported by taxation at 8,431,000, Senator Metcalf places the number of gainfully employed persons at 46,000,000 and the total adult population at 70,000,000, and adds: "Thus, if we subtract from the gainfully employed those persons classified as gainfully employed in the business of government, we find that for every four gainfully employed in the country there is one person supported wholly or in part by the Government."

Senator Metcalf might have gone deeper and added that in direct taxation approximately only 2,500,000 persons pay an individual income tax and about 263,000 corporations pay a federal tax on their incomes. Two per cent of the population pay 47.5 per cent of the national income tax and 53 per cent of reporting corporations pay 52.5 per cent.

We commend these facts to the consideration of the American business leadership.

# Southern Construction

## Totals \$850,000,000

By

CARROLL E. WILLIAMS

THE value of construction contracts awarded in the sixteen Southern states during 1931 was \$649,312,000. This figure covers engineering, construction and building projects mentioned in the construction columns of the MANUFACTURERS RECORD, but does not include those enterprises involving an expenditure of less than \$10,000, or numerous important projects for which accurate cost figures were not available. It is conservatively estimated that Southern construction last year involved in the aggregate an expenditure of more than \$850,000,000.

Compared with the 1930 peak-year figure of \$921,715,000, representing actual awards as compiled by the MANUFACTURERS RECORD, the 1931 total is approximately 30 per cent off. Much of this shrinkage in valuation can be attributed to sharp reduction in the cost of building materials and construction costs generally. The 1931 total is, however, but

17 per cent below the 1929 figure of \$779,981,000, and about 27 per cent less than the \$890,000,000 average for the years 1925 and 1926.

Contracts awarded during 1931 for road construction set a new high record, heading the list of the various types of work.

In addition to allocation of the millions of dollars for construction of Federal aid highways, the Government is now carrying on a nationwide building program of magnitude, and the South has a large share in it.

With the exception of roads and projects of a miscellaneous nature, the valua-

tion of building projects for which contracts were awarded by municipal, state and Federal agencies, is surpassed by no other type of construction. This type of work in the South last year amounted to almost \$67,000,000.

Awards for miscellaneous projects reached a total of \$167,489,000. Sewer construction contracts aggregated \$34,000,000, followed closely by school contracts valued at \$33,000,000. Dwellings and apartments and hotels remained together, the figure for each being \$26,000,000 and \$21,000,000 respectively.

Proposed work during 1931 amounted to \$794,249,000, or about 67 per cent of the contracts proposed in the preceding year. Decline in the cost of materials makes evident the fact that the real ratio of the 1931 figure to those of other years is somewhat greater, possibly by about 15 or 20 per cent.

### 1931 Records of Construction South

	Contracts Awarded	Contracts to Be Awarded
Apartment houses and hotels.....	\$20,890,000	\$12,969,000
Association and fraternal .....	3,633,000	2,407,000
Bank and office buildings .....	12,272,000	10,030,000
Church buildings..	3,886,000	8,317,000
City, county, government and state projects..	66,846,000	57,817,000
Dwellings, costing \$10,000 and over	26,175,000	11,244,000
Miscellaneous ...	167,489,000	279,197,000
Roads, paving and bridges .....	270,983,000	279,798,000
School buildings..	33,356,000	54,876,000
Sewers, drainage and water works	34,014,000	72,106,000
Store buildings...	9,768,000	5,488,000
Total .....	\$649,312,000	\$794,249,000

### Monthly Totals of Construction South

	Contracts Awarded	Proposed
January .....	\$67,038,000	\$70,704,000
February .....	43,167,000	118,005,000
March .....	68,987,000	88,278,000
April .....	88,884,000	97,502,000
May .....	69,047,000	88,438,000
June .....	47,385,000	79,853,000
July .....	66,633,000	80,047,000
August .....	41,613,000	36,832,000
September .....	54,556,000	21,371,000
October .....	45,351,000	30,715,000
November .....	29,270,000	45,923,000
December .....	27,381,000	36,581,000
Total .....	\$649,312,000	\$794,249,000

## Development of Chemical Enterprises

Numerous important industrial enterprises, organized or developed to turn out a wide variety of products, were completed or put under way last year in the South. To mention only a few at random is sufficient to give an idea of the diversity of industry in this section. The Southern-Advance Bag & Paper Co., Inc., controlled by the Advance Bag & Paper Co. of Boston, undertook \$2,000,000 improvements at its Hodge, La., paper mill. The Southern Kraft Corporation, controlled by the International Paper Company, completed at a cost of \$10,000,000 at Panama City, Fla., the country's largest kraft paper mill. The Southern Alkali Corporation, an affiliate of the Pittsburgh Plate Glass Company and the American Cyanamid Company, began initial operations at Corpus Christi, Texas, estimated to involve an ultimate expenditure of \$10,000,000. At Wilmington, N. C., experiments are under way by the Dow Chemical Co., for extraction of bromine from seawater, looking to the erection of a

plant to cost perhaps \$2,000,000. The Arundel-Brooks Concrete Corporation completed a plant on Baltimore's waterfront with an initial capacity of 1000 cubic yards daily. The Bassett Chair Company, Bassett, Va., completed a plant to produce 1500 to 2000 units daily. A subsidiary of the Texas Company, New York, completed a \$2,000,000 plant at Tulsa, Okla., for the manufacture of chemicals used in the petroleum industry. The Tennessee-Eastman Corp. built a \$1,000,000 cellulose acetate plant at Kingsport, Tenn. The Sylvania Industrial Corporation pushed work on a \$1,000,000 addition to its plant at Fredericksburg, Va., the first unit of which was completed in the preceding year, for the production of transparent paper. The Brown Paper Company, Monroe, La., expended approximately \$5,000,000 for improvements. The Champion Fibre Company, Canton, N. C., in October launched a plant expansion program to involve an expenditure of over \$1,000,000.



## Textile Industry Further Expanded

Despite unsettled conditions which have existed in the textile industry for several years, marked improvement having been noted in the last half of 1931, in the aggregate a big volume of new construction and mill modernization work was undertaken in the South last year. The largest new project is that of the Clark Thread Company, Newark, N. J., which went forward with the building of the first units of a mill at Austell, Ga., estimated to involve ultimately an expenditure of several million dollars. The Bibb Manufacturing Co., Columbus, Ga., attracted widespread attention with the award of contract for 1000 new looms. Textiles, Inc., Gastonia, N. C., capitalized at \$17,000,000, represents a merger of 14 spinning and weaving mills, with approximately 300,000 spindles. Incorporation of a selling unit and a finishing division centered attention of the textile industry on this new organization. The Trion Mills, Trion, Ga., awarded contracts in June for improvements involving \$1,000,000. The Pepperell Mfg. Co., Glendale, Ga., in August placed orders for 50,000 spindles. The U. S. Rubber Company, New York, took over the Stark Mills, Hogansville, Ga. The Aponaug Manufacturing Co., West Point, Ga., in November awarded contract for an addition. The Groves Thread Co., Inc., Gastonia, N. C., completed a bleaching, dyeing and finishing plant. Huntley, White, Jackson Co., established a men's high grade hosiery mill at High Point. The Asheboro Hosiery Mill, Asheboro, N. C., erected an addition to house 200 knitting machines. The Commander Mills, Inc., Sand Springs, Okla., completed a bleachery. Pacific Mills, Lyman, S. C., awarded contracts in September for a \$500,000 addition. The Tennessee-Eastman Corp., Kingsport, Tenn., completed a \$1,000,000 cellulose acetate yarn mill. The Virginia Maid Hosiery Mills, Pulaski, completed a new unit.

The Viscose Company, Marcus Hook, Pa., pushed work last year on a big improvement program at its Parkersburg, W. Va., plant.

Outside interests continue to move plants and machinery from plants in the East and North to the South. Meanwhile, established mills are being made more efficient by the installation of the latest type machinery, the rearrangement of equipment, and improvements to humidifying and lighting systems. The decision on the part of many mills to abandon night shifts was followed by the award of orders for much new equipment and was a signal for the initiation

of rehabilitation work on a large scale. Hosiery and underwear mills were active last year in expanding operations by the installation of new machinery and equipment and the erection of mill additions. Diversification in the Southern textile industry was advanced in 1931, and numerous finishing, dyeing and bleaching units were added. The close of the year found conditions in the industry more

encouraging than for years. During the fall of 1931 many plants increased their day forces, added night shifts and generally speeded up operations to fill new orders, some of which will necessitate capacity operations well into this year.

Production of garments at or near the finishing mills is being undertaken by several companies. Much machinery is being scrapped by hosiery mills to make way for the installation of new machines. Antiquated and narrow looms are being junked and replaced by high speed, wide looms. Specialty mills continue to expand operation.

## Veritable Boom in Building of Grain Elevators in Southwest

In the spring and early summer of 1931 huge sums of money in the aggregate were expended for grain elevator additions and improvements and new storage elevators in Kansas, Oklahoma, Missouri and Texas. At one time grain elevator projects under way in the Kansas City district alone involved an expenditure of about \$4,000,000, providing 15,500,000 bushels additional storage. Included were: Missouri Pacific Railroad Co., Kansas City, \$1,800,000, 2,500,000-bushel elevator; Atchison, Topeka & Santa Fe Railroad Co., 4,000,000-bushel addition in Argentine district of Kansas

City; Enid Terminal Elevator Co., Enid, Okla., 1,000,000-bushel addition; Chicago, Rock Island & Pacific Railroad Co., new elevator, Kansas City, Mo.; Ralston Purina Co., St. Louis, new elevator; Galveston Wharf Co., Galveston, Texas, completed a \$3,000,000, 6,000,000-bushel grain elevator; Burrus Panhandle Elevator, Dallas, Texas, 1,000,000-bushel elevator at Amarillo; Kimbell Milling Co., Fort Worth, 700,000-bushel elevator addition; Missouri-Kansas-Texas Railroad Co., 1,054,000-bushel addition to Kansas City elevator; Oklahoma Wheat Pool Elevator Corp., 1,000,000-bushel elevator, Enid, Okla.

## Building of Underground Pipe Lines Stimulated Activity in Steel Industry

Much of the activity in the steel mills of the country in 1930 and particularly in 1931 was due to the demand for sheets for the manufacture of line pipe. Great mileages of underground transportation systems to convey gasoline, oil and natural gas, were built from the South and Southwest to distant industrial centers. While a few new major projects were initiated, most of the awards in the South were for extensions to trunk lines put under way in 1930. These extensions provided service to towns and cities near the main rights of way as well as to important nearby industries and central station steam-electric generating plants. To effect savings in handling costs several important oil lines were built to serve refineries from newly

opened fields. In addition to the big expenditures made for pipe lines, compressing and pumping stations, tank farms, telephone and telegraph lines, a number of major refineries were built last year, particularly in Oklahoma and Texas, following the discovery of what has been called the nation's greatest oil field in East Texas, which resulted in a veritable building boom for numerous towns and cities in that region.

Some of the major pipe lines completed or put under way last year include: Texas-Empire Pipe Line Co., Houston, 207-mile oil line from East Texas fields to the Gulf; Western Gas Co., affiliated with El Paso Natural Gas Co., 300-mile system; Atlas Pipe Line Co., Inc., Shreveport, 65-mile oil line



from Shreveport to East Texas fields; Arkansas-Louisiana Pipe Line Co., 6-inch line from Panola County gas field to Waskom, Texas; Public Service Corporation of Mississippi, 86-mile gas line, Jackson to Hattiesburg; Great Lakes Pipe Line Co., Kansas City, Kan., 1400-mile gasoline line from Ponca City, Okla., to Chicago, via Barnsdall, Okla., Kansas City, Mo., Des Moines, Iowa, and St. Paul, Minn., estimated cost \$18,000,000.

Continental Pipe Line Co., 8-inch oil line from Oklahoma City oil field to Ponca City, Okla.; Ajax Pipe Line Co., Springfield, Mo., and Tulsa, Okla., twin 10-inch oil line from Glenn Pool, Okla., to Wood River, Ill., 394 miles; Memphis Natural Gas Co., \$3,000,000 system to

supply natural gas to Covington, Ripley, Brownsville and Jackson, Tenn.; Oklahoma Natural Gas Corp., Tulsa, 120-mile line from San Angelo to Girvin, Texas; Sun Oil Co., Philadelphia, Pa., 200-mile line from East Texas field to Neches River near Beaumont, Texas; Simms Oil Company, Dallas, 130-mile line projected from Lathrop oil field to Dallas; Continental Construction Corp., of Kansas City, Mo., 1000-mile 24-inch natural gas line from Texas Panhandle to Chicago; Columbia Gas & Electric Corp., New York, \$20,000,000 natural gas line from Kentucky and West Virginia fields to serve towns and cities in Virginia, Washington, D. C., and to connect through Maryland with line from Pennsylvania gas fields.

Highway from the Capital City to Mt. Vernon, are nearing completion.

The Pensacola (Fla.) Bridge Corporation completed a \$2,000,000 4-mile bridge across Pensacola Bay and a \$250,000 bridge across Santa Rosa Sound. The State Highway Board of Georgia completed the Doctortown bridge involving seven miles of heavy fill through the Altamaha River swamp, at a cost of \$550,000. The State of Kentucky completed the first of eleven toll bridges, known as Project No. 3, over the Ohio River, connecting Ashland, Ky., and Coal Grove, Ohio. Contracts for six of the state-owned toll bridges have been let, and four others are shortly to be let to contract. The structures involve \$186,000 to \$1,600,000 each. The City of Baltimore completed a \$680,000 bridge spanning Curtis Creek.

One of the outstanding developments in road building was the reorganization of the highway system of North Carolina, requiring the taking over of 47,000 miles of county roads by the State Highway Commission, thereby giving it control of 57,000 miles of highways. It is natural that the eyes of the nation's roadbuilders again should be on North Carolina. Considering expenditures, however, Missouri, Texas and Louisiana occupy the center of the stage, for the state program in each of these states now involves the expenditure of upwards of \$35,000,000 annually. Louisiana has gone at roadbuilding with characteristic Southern vigor, funds being provided out of a state bond issue aggregating \$75,000,000. The Missouri state road program, as now enlarged, involves over 15,000 miles, and \$30,000,000 is being expended annually for construction and \$5,000,000 for maintenance. Texas, vast empire that is, is undertaking state road work at a rate involving an expenditure of about \$30,000,000 a year.

## Volume of Road and Bridge Work at New High Level

Increasing revenues from automobile license fees and gasoline taxes, together with funds provided by the sale of city, county, district and state bonds, coupled with increased Federal highway appropriations, went to make up a huge total expended last year for maintenance and construction of roads and streets in the Southern States, estimated at \$550,000,000, which, considering the decreased construction cost, sets an all-time high record in volume of work of this type undertaken. State work alone, based on authoritative information furnished the MANUFACTURERS RECORD by officials of the sixteen state highway departments, involved an expenditure in 1931 of \$275,000,000, and it is conservatively estimated that work undertaken by the various state subdivisions, townships and cities represents an equal amount. Moreover, the official reports from the state highway departments indicate that programs mapped out for 1932, and for which funds are virtually assured at this time, involve an expenditure of \$265,000,000, a negligible decline from the high total of 1931.

Several outstanding projects are to be undertaken this year. In Louisiana bids were received last year for a combination rail and highway bridge—a state and city owned project—to cost \$15,000,000 and which will be let to contract this year. A state bridge across the Mississippi at Baton Rouge will cost \$9,000,000, while a state highway bridge across the Bonnet Carre Spillway above New Orleans will involve an expenditure of \$1,200,000. Last year Louisiana awarded contracts for 17 bridges costing

from \$100,000 to \$1,200,000. Alabama last year completed 15 state-owned toll bridges at a cost of \$5,000,000. The biggest bridge completed in Florida was that spanning Peace River at Punta Gorda, costing \$962,000. In Maryland a \$500,000 bridge was completed over the Nanticoke River at Vienna. Knoxville Tenn., completed the \$1,000,000 Henley Bridge spanning the Tennessee River. Birmingham, Ala., is going forward with units of a \$4,000,000 viaduct-underpass project. A \$625,000 state-owned toll bridge over the White River, between Augusta and Bald Knob, Ark., was completed last year. The \$15,000,000 Memorial Bridge spanning the Potomac, at Washington, and the costly Memorial

## Railroads in South Carried Out Extensive Improvement Programs

The South has led the nation in new railroad construction in the past two years. Despite unsettled conditions in industry and business, the railroads have undertaken the building of new lines, extensions to established lines, track and grade revisions of a major nature, construction of new tunnels, the building of costly bridges, the modernization of shops and terminal facilities, as well as investing millions in rolling stock and rebuilding equipment already in use.

Notable work along these lines has been done by the Norfolk & Western.

The Pennsylvania Railroad placed orders aggregating more than \$20,000,000 for locomotives and parts to be used in connection with the electrification of its lines between New York and Washington, and in recent months, following the consummation of a contract for electric power from the Safe Harbor hydro-electric project completed on the Susquehanna River, it has speeded up the award

of contracts for conduits, bridges, tunnels, etc., in and near Baltimore that are a part of a \$22,000,000 program.

Southern Railway System completed double-tracking and revising 77 miles of the Cincinnati-Chattanooga line, which has been under way since 1928. The Pennsylvania Railroad and the City of Louisville, Ky., agreed on a construction program for an elevated railroad to eliminate grade crossings, involving an expenditure of \$3,000,000. The Louisville & Nashville Railroad Company awarded contracts in April for a \$6,500,000 bridge and approaches at Henderson, Ky. The New Orleans Public Belt Railroad last year received bids, and when the bond market improves will award contracts for a \$15,000,000 combination rail and highway bridge across the Mississippi River at New Orleans. The Pennsylvania Railroad completed a \$750,000 produce terminal in Baltimore. A \$25,000,000 project, involving double-tracking, re-aligning and installation of modern signal apparatus on its 126-mile main line west of St. Louis to Cole Junction at Jefferson City, Mo., was completed by the Missouri Pacific Lines, work having been initiated in 1925. The Illinois Terminal Railroad System, St. Louis, will erect the third unit of a \$15,000,000 building program in that city for the North American Light & Power Company, the other two units being the Midwest Building, a universal warehouse, and the elevated-surface-subway system from McKinley Bridge to 12th street and Washington avenue.

The Terminal Railroad Association, St. Louis, is building a \$5,000,000 merchandise mart and terminal warehouse. The Missouri-Kansas-Texas Railroad Company pushed work last year on a \$1,233,000 bridge at Booneville, Mo. The Atchison, Topeka & Santa Fe Railway is building eleven underpasses and retaining walls, costing \$1,500,000, as part of a \$5,000,000 track elevation program in Oklahoma City. The Missouri-Kansas-Texas Lines acquired the Beaver, Meade & Englewood Railroad Company, operating a 105-mile rail line from Beaver to Keyes in the Oklahoma Panhandle. The City of Beaumont and the Southern Pacific Railroad agreed on a \$4,000,000 viaduct project to eliminate grade crossings. The Fort Worth & Denver City Railway Company awarded contracts in August for a \$700,000, 113-mile rail line, on its Childress-Pampa extension. The Texas & Pacific Railway Company completed an \$8,000,000 project at Fort Worth, including a terminal warehouse, passenger station and office building. Construction was initiated early in the year on a rail line from Fredericksburg, Texas, to Brady, and from Eden to San Angelo, as a step in the development of plans of the Southern Pacific Lines to connect the plains country with a direct

line to the Gulf at Corpus Christi, the project being handled by the Gulf & West Texas Railroad. Construction was completed on the 73-mile line of the Atchison, Topeka & Santa Fe Railway Company between Alpine, Texas, and Presidio on the Mexican border.

The Gulf, Colorado & Santa Fe Railway Company awarded contract for \$1,250,000 office building in Galveston, Tex. The Norfolk & Western Railway Company erected an \$800,000 general office building in Roanoke. It completed a 400-foot extension to Merchandise Pier S at Lambert Point, Va., at a cost of \$550,000, together with improvements to warehouses and to other piers. The Norfolk & Western in July opened its 39-mile Buckhannon branch from Leon, W. Va., to Hurley and Grundy, Va., built at a cost of \$9,000,000. The Seaboard Air

Line Railway in February placed in operation a new bridge across the Appomattox River at Petersburg, Va. The \$1,500,000 Jacobs Fork Branch extension of the Norfolk & Western Railway Company, on which work began in 1930, was completed. The Baltimore & Ohio Railroad completed an \$800,000 bridge at Harpers Ferry, W. Va. The Chesapeake & Ohio Railway Company pushed work on the double-track tunnel and bridge over the Greenbrier River and allied improvements in the vicinity of Second-creek, W. Va., costing \$1,564,000. The Virginian & Western Railway Company, a subsidiary of the Virginian Railway Company, in June awarded contract for three tunnels and two bridges on Section F of the Guyandot River line between Elmore and Gilbert, W. Va., 6.38 miles, the last section of a 43-mile line.

## Formidable Volume of Miscellaneous Construction and Engineering Projects

Miscellaneous construction and engineering projects were carried forward to completion, or work started last year in encouraging volume. This class of work is featured by the improvement program under the supervision of the U. S. Engineer Corps for Flood Control of the Mississippi River and its tributaries, calling for an annual expenditure of \$35,000,000. Not only does this program provide work for hundreds of men and the assembling of an array of contractors' equipment, including barges, dredges, derricks, cranes, tractors, industrial railway outfits, cableways, power buckets and shovels, draglines, etc., but it results in a big demand for wood, steel, timber and concrete piling, cement, sand and gravel, reinforcing steel, lumber, etc., for the work comprises in addition to miles of levee, costly spillways, elaborate revetments, contraction works, dykes, etc. The most important project in this program completed last year was the \$3,500,000 Bonnet Carre Spillway, 28 miles above New Orleans, to divert flood waters of the Mississippi into Lake Pontchartrain and thence into the Gulf. A costly highway and several important railway bridges are to be built across the floodway, which is more than a mile and a half wide between main diversion levees. In addition to the Government program, levee districts are investing big sums in flood protection work. The State of Louisiana and the Red River, Atchafalaya and Bayou Boeuf Levee District built a concrete and steel floodgate near

Bordelonville La., to divert backwaters of the Red and Atchafalaya rivers to the Gulf.

Washington, D. C., awarded contracts for two refuse incinerators. Preliminary work was initiated on the flood control program to cost \$9,000,000 in Lake Okechobee, Fla. The War Department awarded contracts for a \$750,000 lock in the Louisiana and Texas Intracoastal Waterway, at Harvey, La. Lake Charles (La.) Harbor and Terminal District went forward with a \$700,000 port improvement program. New Orleans set the pace for southern ports in improvements last year, bringing its wharf system to a high state of repair and carrying forward to completion a \$1,500,000 sprinkler system for all port facilities. Other work included new wharves and improvements to piers, wharves, slips, etc. The Director of Public Works, Kansas City, Mo., awarded contracts early in the year for a \$500,000 city wharf. The City and County of Dallas Levee Improvement District pushed work on the flood control and land reclamation project, which with auxiliary improvements will entail an expenditure of perhaps \$20,000,000. Brownsville, Texas, has initial work under way on a \$6,000,000 seaport project. The City of Richmond has started initial work on a deep-water harbor terminal, the total cost of the work to be undertaken by the Government and the city being \$3,000,000. The War Department let contracts for a lock in the Kanawha River, near Marmet, W. Va., to cost \$800,000.



# The Five Major Hazards of the Workman

By L. F. LOREE, President, Delaware and Hudson Railroad and Chairman of the Executive Committee, Kansas City Southern Railway, New York City.

## Part I

THE workman is exposed to five major hazards; sickness, accident, death, unemployment, and superannuation or the incapacity of old age. While the man of property, having a fixed income, is thereby measurably buttressed against these hazards, the workman must rely upon his personal credit, the assistance of his family, or the support of associates or of society. Of late years much thought has been given to these conditions, and now, in a time of depression, when unemployment is markedly increased, this is particularly true.

For a long time the Delaware and Hudson Railroad Corporation has been working at an amelioration of these hazards. Its experience may be of interest:

As early as May 1, 1880, the Baltimore and Ohio Railroad, and, on February 15, 1886, the Pennsylvania Railroad organized "Voluntary Relief Associations" for assistance against the distress caused through sickness and accident. I had personal experience under both companies and came to feel that these, as well as the insurance on lives, could best be handled by an insurance company limited to and skilled in the actuarial field and that the experience heretofore gained in group insurance could be utilized to advantage. I consulted for nearly two years with the late Mr. Haley Fiske, president of the Metropolitan Life Insurance Company, and there was finally worked out the plan of group insurance now in operation on the Delaware and Hudson, which has so grown throughout the country that the Metropolitan alone is now carrying an underwriting of nearly \$3,000,000,000 of life alone and \$10,000,000 of health and accident weekly benefits.

### Sickness-Accident

The original sickness and accident insurance plan as inaugurated by the railroads covered a period of incapacity of

52 weeks. This, I felt, was a much longer coverage than experience warranted and so arranged for policies covering 26 weeks. Later, when similar policies were underwritten for the Kansas City Southern Railway, the period was further reduced to 13 weeks. The premium paid the insurance company for the two policies of accident and sickness, covering a payment of \$15 per week for 26 weeks during the time lost through such incapacity on the Delaware and Hudson is \$1.47 per month, or \$17.64 per year, and on the Kansas City Southern for 13 weeks, \$1.05 per month, or \$12.60 per year. Protection for the longer period is secured at an increased cost of 40 per cent, and though for twice the time, is so little availed of that as a commercial proposition its value may be questioned.

The premiums paid the insurance company for the health and accidental protection are, as under the "Voluntary Relief Associations," borne entirely by the workman, but the railroad corporation lends its credit in the relations with the insurance company and assumes all the cost of accounting and supervision. The premiums are collected by deductions on the payroll.

The insurance company keeps on the property at its expense a corps of trained nurses for the purpose of reducing its liability. These nurses have proved invaluable as a source of information to the housewife in many of the problems of health, diet, and the care of the person as affecting other members of the family, and are recognized as one of the most valuable features of the plan. The railroad has a corps of surgeons whose services are available.

I had often wondered what relationship there was between the time a man would take from his work for his per-

sonal enjoyment and the time lost by sickness or accident. I had the figures worked up for the year 1929. The loss of time by the entire body of workmen caused by sickness was 2.7 per cent and by accidents 0.3 per cent, or for the two 3 per cent of the working time. The time taken out for vacations and leaves of absence without pay was 4.1 per cent. That is, while sickness and accident are to the individual both painful and expensive, the former having nine times the influence of the latter, they would appear to be felt by the group to be negligible since the group, as a whole, took out more leisure time for pleasure or other personal reasons than the time losses imposed upon it by sickness and accident.

### Death

Under the plan for group life insurance, the individual employee pays a definite fixed premium through monthly deductions from his pay envelope. The balance of the premium is provided by the corporation, which is, roughly speaking, about 50 per cent of the cost. This has the advantage of being a fixed and definite cost to the employee, with somewhat uncertain charges carried by the corporation. In the beginning, all certificates and changes of beneficiaries together with accounting requirements were handled by the insurance company. This is now done by the railroad corporation, thus eliminating duplication and the expense of administration.

The business of steam railroad transportation has, for many, great attractiveness. It is very active, it is prosecuted during the 24 hours of the day, every day in the year, covers a wide territory, and the associated relations are so intimate and responsible that many of them carry with their performance the matter of life and death. These men have a very high personal pride in their



work and set a high value upon their association. Usually during the first two years of service a man comes to know whether or not he really likes the job. If he stays through this period he may be counted upon to look forward to making the occupation his life's work. The corporation recognizes this trial period by carrying at its own expense a life insurance policy, payable to the employee, in the amount of \$250, to which he can add the same amount on the payment of a small fixed premium. After this period of two years the free insurance is increased to \$500, and the total insurance may be increased to the full amount of the annual wage earned, the premiums being divided, as previously outlined, between the workman and the corporation. In order that an average be maintained, a limit is fixed at \$5000. This policy is the personal property of the insured. If he leaves the service of the company, he may take it with him. The Insurance Company rerates the premium to his then attained age and the company ceases its contribution, while the holder of the policy is not required to qualify under a medical examination.

Railroading has a wide variety of services, many held to be of a hazardous nature, and the insurance policy carries with it a provision which doubles the amount in case of death caused by accident. The largest amount I recall having been paid was the case of an engineer who had been insured for \$4700, and whose beneficiaries received \$9400, because his death came through an accident. The holding of a policy does not in any way interfere with the rights of the employee or family to make recovery by reason of the responsibility of the company in the employment relation. The insurance stands absolutely by itself and is in no way connected with anything else. It has the advantage of giving a very cheap rate by reason of its application to a large group, the avoidance of solicitation, the elimination of uncertainty in premium collection, the low cost of accounting and other features.

Participation in the plan is entirely at the option of the workman. In the year 1930 there were 804 men on the free life plan for \$250 each, 99.6 per cent of whom availed themselves of the opportunity to take an additional \$250 at a fixed premium. In addition, 10,859 of the employees in the service more than two years were provided with \$500 free life insurance. These same employees took advantage of the additional offer, running the insurance up in some cases as high as \$5000. At the end of 1930, 93.4 per cent of all eligible employees were availing themselves of the opportunity.

### Old Age Disability

Pension funds were inaugurated by the Baltimore and Ohio and Pennsylvania Railroad companies simultaneously with their voluntary relief plans, and their practice has been followed by many other railroads. The pension fund on the Delaware and Hudson was inaugurated in 1907. Recently, the Metropolitan Life Insurance Company has worked on pension insurance, broadening their practice in handling annuities. This contemplates joint participation by the company and the workman and, like the life policy, is the property of the workman. Any company considering the inauguration of a pension plan should give this pension insurance policy serious consideration. While pensions are entirely voluntary on the part of the company, I see no reason to believe that there is any probability of their being discontinued.

There is much exaggeration of the effective age of employment. There are on the payrolls today more than 1200 men over 60 years of age.

My experience impressed me with the occasional, but very harsh effect of the inflexibility of retirement rules. The retiring age of a man in good health, after 25 years in the service of the company, was fixed at 70 years, or at 65 if retired by reason of physical disability, and this permitted of no exceptions. I think in every organization someone, either the president or a committee of the board of directors, should be charged with assuming the responsibility for departures under moving consideration from a determined line of conduct. Our practice is, in justifiable cases, to place men on the pension roll at earlier ages and to decrease correspondingly the annual compensation, but not to decrease the total amount, the payment of which is anticipated.

If a man at 65 is invalided and the mortality table shows he has a ten year expectation of life, and his pension allowance is \$1000 per year, he may look forward to receiving \$10,000. If he were placed on the pension roll at say 63, his expectation of life would be 12 years, and the \$10,000 would carry him at \$833.33 per year. If he lives through his expectation, he gets the full amount, but he is meantime earlier insured the certainty of his support. This flexibility has had a marked effect in increasing the cordiality of the employment relations.

There are now 335 men on the pension roll of the Delaware and Hudson Railroad Corporation. Of these, 72 are over 80 years of age. Of the incapacitated men, 67 were put on the roll under 65 years of age, and 110 after that age. Of the men put on for age, 158 went on

after 70. The number taken on under 65 is a very real modification of the ordinary practice. We do not enforce an inflexible rule that a man retire at 70. There are now in active service 176 men over that age. Even this modification did not entirely take care of the situation. There are certain classes of sickness or accidents, with a short expectation of life, that work great hardship. We, therefore, have set up an "incapacitated roll" on which today we have 12 men. On this roll men are continued at what we feel is a sustaining amount. Each case is judged by itself. In some cases the wage is maintained and in others it is stepped down to the pension allowance. The entire expense of these pensioned and incapacitated men is borne by the company. The company also assumes the expense of the life insurance premiums when the workman is placed on the pension roll.

(To be concluded next week.)

### \$6,200,000 IN NEW INDUSTRIES

M-K-T Lines Report Growth in 1931—  
President Cahill Sees Larger  
Investment in 1932

St. Louis, Mo.—Although marked by a general lack of industrial development, 1931 saw the location of 168 new industries on Katy rails in the Southwest, according to M. H. Cahill, chairman of the board and president of the Missouri-Kansas-Texas Lines. These new industries, as pointed out in the annual report of the railroad's industrial development department, represented an investment of \$6,203,850 and were expected to provide employment for 2789 people and to produce an estimated tonnage of 42,300 cars of freight annually.

About 57 per cent of the new industries were located in Texas, which has about 40 per cent of the M-K-T mileage, while Oklahoma, with 31 per cent of the Katy mileage, gained 20 per cent of the new industries, and Missouri, with 14 per cent of the mileage, gained 14 per cent. Kansas, having another 14 per cent of Katy mileage, gained 7.7 per cent.

"While the industrial increases shown in 1931 are most encouraging," says Mr. Cahill, "the really hopeful feature lies in the fact that industrial leaders in all parts of the country are showing a keen interest in the Southwest with the result that negotiations that have been commenced by our development department indicate there will be a much larger investment of new capital in the Katy territory in the new year."

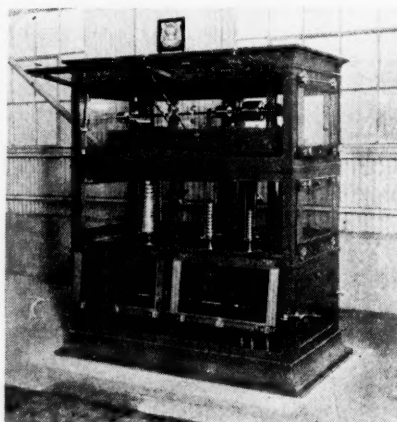
# Master Scale Verifies Weight of Carload Shipments

**T**HE Norfolk and Western Railway Company has installed a 150,000-pound capacity Fairbanks master track scale in its scale shop at Roanoke, Va., this type of scale being a specially constructed and carefully maintained instrument for establishing and checking the weight of scale test cars. These latter are heavy all-metal cars used for testing track scales at various points on the railroad. In 1911 the Norfolk and Western installed its first master track scale; three years later this was replaced by a scale of 100,000 pounds capacity. With the increasing weight of freight car equipment, the larger and newer scale of 150,000 pounds capacity was found necessary.

During the past 30 years many improvements have been made in design and construction of track scales, the trend being to increase capacity in proportion to increase in weight of freight cars engaged in handling heavy traffic, such as coal, iron ore, steel, and quarry products. Gross weight of cars of this type used by the coal-carrying railroads of the East has doubled within the past 25 years. Conforming with this rise in weight, the Norfolk and Western has installed heavy capacity track scales at all important weighing points. The new

master scale at Roanoke is another step toward insuring greater accuracy in freight charges. An essential requirement is that all parts be of rugged design and construction. Weight and strength are also of importance, so that vibration of the parts will be reduced to a minimum during the process of weighing the test cars, which are rolled on and off the scale during the procedure.

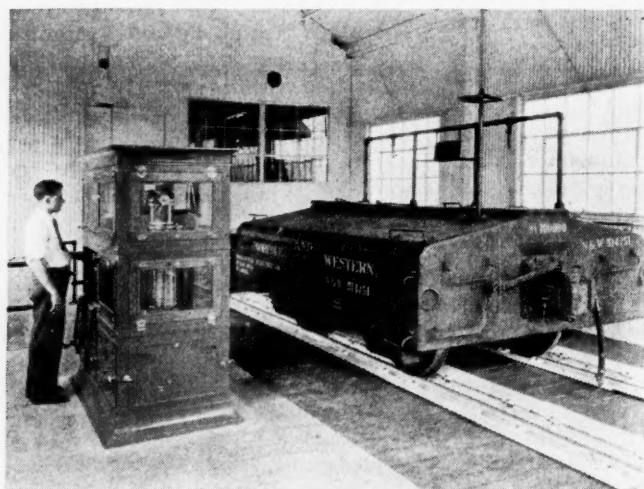
The new master scale at Roanoke is equipped with plate fulcrum bearings.



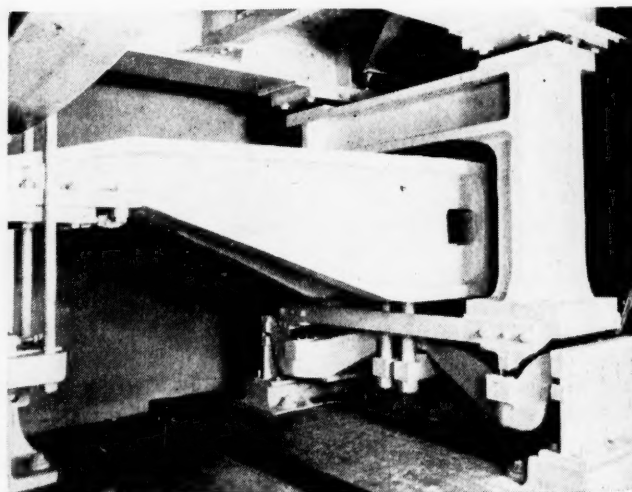
Weigh Beam Apparatus and Cabinet,  
With Doors Open to Show Mechanism

These plates are manufactured from Presto alloy steel, and they are used for bearings between scale levers with a resulting lowering of the wear of parts. Fewer adjustments are thus required. Length of the weigh rail is 12 feet. The scale is installed in a concrete pit, with thick side walls and foundation slab especially designed to eliminate vibration. All parts of the scale mechanism and the weight bridge, which support the scale test cars, are of heavy design, and will weigh without overstressing any structural members, three times the capacity of the scale. This high safety factor further reduces vibration and results in greater accuracy.

Other important parts of the master track scale are the weigh beam, counterpoise weights, balancing and adjusting mechanism, and a cabinet for protecting and enclosing these parts. The weigh beam equipment is enclosed in a three-compartment cast metal cabinet, with convenient hinged plate glass windows. A plate glass partition, separating the operating handles from the cabinet proper, prevents air currents striking the beam when in use and prevents corrosion. An indicator multiplies the movement of the beam and makes balancing



New Master Scale Weighing a Test Car



Showing Massive Construction of the Lever



and reading easy, assuring greater accuracy.

The levers and mechanism for lifting the counterpoise weights, as the load comes off the scale, are connected to a counting and indicating device which enables the operator always to know the number of weights on the beam. The counterpoise weights were manufactured from materials least affected by atmospheric conditions and were certified by the United States Bureau of Standards with the highest rating issued. The weight beam is graduated to 100 pounds, in one pound divisions. It also is provided with a vernier permitting reading to a tenth of a pound.

Purchase and installation of the new master track scale was carried out under supervision of the Norfolk and Western's chief engineer, W. P. Wiltsee, in cooperation with the superintendent of transportation, J. R. Talbott. The Fairbanks-Morse Co., Chicago, is the manufacturer of the scale.

The importance of a master scale in facilitating freight moving and in checking the weight of freight handled cannot be overestimated, according to authorities. A brief resumé of the freight handling activities of the Norfolk and Western will illustrate this important function. During the course of a year this road loads on its line and receives from connections about 1,500,000 carloads of revenue freight. Approximately 80 per cent of this traffic is weighed on scales which are tested regularly by the railway company. Some weighing is done on the scales of a number of the larger industries along the line. The weights given by these industries are accepted for billing purposes under certain conditions of railroad supervision, one of which is the testing of the privately owned scales by the railway's scale test cars.

Not only do the weights thus obtained establish the basis for the settlement of the carrier's transportation charges, but they are used as the basis of the buyer's payment to the producer, as in the case of coal and many other bulk commodities. This widespread acceptance of these railroad supervised weights indicates the importance of taking every precaution to insure accuracy of all scales involved.

Equipment used on the Norfolk and Western for the testing of track scales includes two 100,000-pound and one 62,000-pound all-metal, short wheel base test weight cars. Frequent verification of the established weights of these cars is made to insure maintenance of the standard weight. At intervals of 30 to 60 days these cars move over the railway and test for accuracy and adjustment all track scales used for commercial weighing.

## Children's Sanatorium Planned

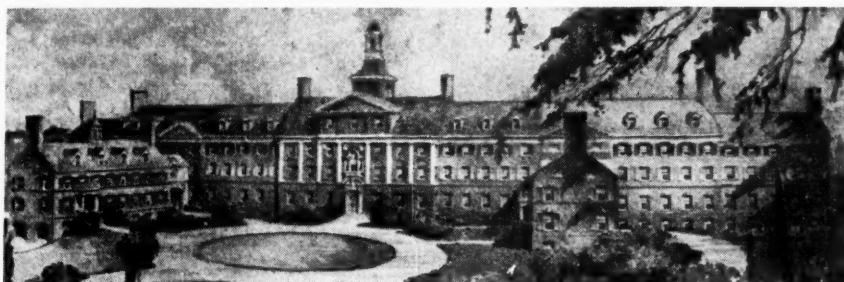
A group of buildings is to be erected by the District of Columbia at Glenn Dale, Md., as a sanatorium for tubercular children, and contract for a \$60,000 nurses' home is soon to be awarded. The group will include a main hospital building, \$325,000, to accommodate about 140 patients; central heating plant to cost \$50,000 initially; superintendent's cottage, and other facilities. A well and water supply system and sewage disposal system will be provided. Possible future developments include expansion of the bed capacity of the institution, a sanatorium for adult patients, and expansion of the heating plant. Eventually an institution laundry for the adult group and a children's sanatorium will be built.

The main building consists of ground floor, with three full stories above, and a partial fourth story. First floor will be devoted chiefly to medical and general administration, but will accommodate 32 beds for fully ambulant cases. On the second floor will be newly admitted cases and improved cases transferred from the infirmary. The third floor has been designed for cases of an

acute nature, cases requiring surgical treatment and isolation cases. The fourth floor, forming a central tower, will accommodate a morgue and autopsy room, pathological laboratory, animal room, storage room for X-ray films and pathological specimens.

The nurses' home will be two stories, with basement under the central portion; it will accommodate 40 nurses and technicians. Over-all width will be 182 feet, including wings at either side. A special sewage disposal plant will be built, roads constructed, landscaping developed and a wading pool provided.

The sanatorium will occupy a tract of 216 acres of high and wooded rolling terrain, purchased by the District in 1930. Congress authorized an initial appropriation of \$625,000 for the project, and Lawrence Johnson, assistant to A. L. Harris, the municipal architect, developed plans for lay-out of the buildings. Dr. T. B. Kidner, New York, is the consultant. Plans were handled by the District Commissioners Committee. Major H. L. Robb, U. S. Army, assistant engineer commissioner, will be in charge of construction.



Main Hospital Building of Group to Be Erected in Maryland for District of Columbia

## Louisiana Fruits and Vegetables

New Orleans, La.—Shipments of Louisiana fruits and vegetables during 1931 set a new yearly record for the state, according to figures compiled by R. B. Jones, secretary of the Agricultural Bureau of the New Orleans Association of Commerce. Estimating the movement of fruits and vegetables to market in trucks, therefore not showing in railroad carload totals, it is declared that shipments in 1931 were a little under 15,000 carloads, or about 5000 carloads in excess of 1930 shipments. Strawberry shipments totaled 4716 carloads for the year, establishing a new record, while white potatoes also established a new record

with shipments of 4416 cars. The diversity of the state's fruit and vegetable production is shown by the fact that at least 30 different varieties are included in shipments which stretched over the entire 12 months of the year.

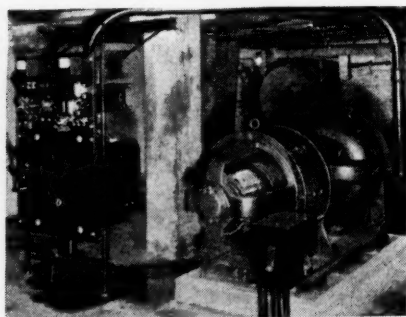
## Buys New Airplanes

Washington, D. C.—The Ludington Line, operating an hourly airplane service between New York and Washington, has ordered five new metal planes for express service between the two cities to be started in the spring. The new planes will cruise at 160 miles an hour, carrying nine passengers and a pilot.



# Synchronous Motor Extends Its Field of Usefulness

The problem of power factor correction and greater efficiency in the use of electrical energy is one of steadily increasing importance to every user of industrial quantities of electricity. As a contribution to this subject, Fairbanks, Morse & Co. point out that the electrical industry has gone far in recent years in extending the field of usefulness of the synchronous motor to a reduction of current consumption and an increase in the power factor. Through improvement and development in design, the synchronous motor in both high speed and low speed groups has been finding a broader application in industry requiring motors ranging from a minimum to several thousand



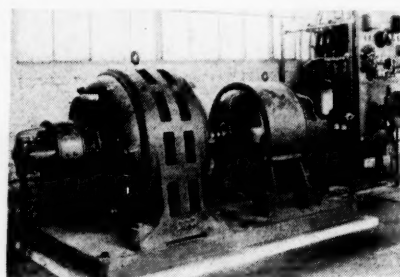
Motor-Driven Generating Set in Plant of D. O. James Company, Chicago

horsepower. To supply this service Fairbanks-Morse built a line of such motors in sizes from 20 to 10,000 horsepower and up. Among recent installations made by the company are cited the following:

At the plant of the L. H. Gilmer Company, Philadelphia, large manufacturers of rubber belting, Vee-belts, and other rubber specialties, there has been installed a Fairbanks-Morse ball bearing synchronous motor of the "nut-less," "bolt-less," type. This motor has a capacity of 100 horsepower, with unity power factor, and operates at 720 revolutions per minute on 2-phase, 60-cycle, 2200-volt current, and drives a 60-inch rubber mixer. The mixer runs at 28 r.p.m. and is connected through reduction gears and a Cutler Hammer mag-

netic clutch to the motor. The specifications called for a motor of unity power factor, with a starting torque of 75 per cent, a pull-in torque of 110 per cent and a pull-out torque of 175 per cent, with the starting current to be not more than 50 amp. per phase with a free running rotor.

The D. O. James Co., Chicago, manufacturers of speed reducers and cut gears of various kinds, installed a synchronous motor-driven generating set because of certain requirements on the part of the electric utility supplying their current. Prior to installation of this equipment, part of the plant was supplied with direct current and part with alternating when the power company served notice that the d. c. supply would be discontinued. Survey of existing equipment at that time revealed several machines with small built-in d. c. motors which it was found inexpedient to replace with a. c. because of speed variation and very close adjustment required. It was decided



Synchronous Motor Generator Set at Milwaukee Plant of Crucible Steel Castings Company

to continue use of the d. c. adjustable speed motors and to install a motor-generator set to supply the current. A synchronous motor was selected for the unit because of insistence of the power company that a certain minimum power factor be maintained at a point which made the synchronous load with its correcting influence necessary. The unit, as installed, consists of a Fairbanks-Morse 100-kilowatt, 2-wire, 250-volt ball-bearing generator direct connected to a

150 horsepower unity power factor 3-phase, 60-cycle, 200-volt synchronous motor, excitation for which is supplied by the generator. The starter is of semi-automatic reduced voltage type.

When the Crucible Steel Castings Company at Milwaukee found it necessary recently to install an additional traveling crane in their plant it was noted that the direct current demand was increased beyond the capacity of their d. c. source of supply and it became necessary to install additional d. c. capacity. The new unit decided on was to be a 100-kilowatt generator direct connected to a 150-horsepower motor. As a result of a survey made, as well as the estimate made by Fairbanks-Morse as to possible savings to be effected, the company ordered the installation of a Fairbanks-Morse 150-horsepower, type AHY, 220-volt, 3-phase, 60-cycle, 1200-r.p.m. synchronous motor with a 2 kilowatt, type EH, 125-volt, direct connected exciter and a 100 kilowatt, 250 volt, type EH compound wound generator arranged for parallel operation with the old 75 kilowatt unit. Figures show that based on an investment of \$2500 for the synchronous motor and control and a monthly saving of \$160 resulting from the increased power factor, or \$1920 per year, the investment gives a return of 76.8 per cent.

## 30,000-Gallon Gasoline Plant

Willow Springs, Tex.—Work has been started by the Arkansas Fuel Oil Co., Shreveport, La., on a new gasoline plant here of 30,000 gallons daily capacity and construction is expected to be completed April 1. The plant will be in the Lathrop area of the East Texas oil field, about 6 miles west of Longview and 1½ miles from the Texas & Pacific Railroad. Very little new material will be purchased, it is announced, as the plant will be constructed largely with material salvaged from plants of the company now shut down in Arkansas and Louisiana. Construction is under the supervision of K. E. Jones, Shreveport, superintendent of the company's gasoline division.

## Blanket Mill Completed

Stuart, Va.—The Spotsadonna Mills, Inc., have completed installation of approximately \$50,000 worth of machinery here and are now in operation, with a production capacity of 150 pairs of part wool blankets in 10 hours. Twelve looms are included in the installation. Dyeing is done at another plant. Officers of the company include: S. A. Thompson, president; F. P. Burton, vice-president; A. Thompson De Hart, secretary, and J. H. De Hart, treasurer and manager.

# Signs of Better Business

UNITED STATES ALUMINUM Co., Maryville, Tenn., has received an order for 500,000 pounds of sheet aluminum from the Ford Motor Company, Detroit. The Ideal Hosiery Mills, Maryville, are operating almost at capacity, with good orders coming in.

BUCKHANNON GARMENT Co., Buckhannon, W. Va., is erecting an addition to provide for installation of new machines giving the plant a weekly capacity of slightly more than 600 dozen men's and boys' pants. Contracts have been signed with a large eastern firm for 17,000 dozen garments.

PIEDMONT MFG. Co., Cordele, Ga., will shortly begin operating an overall and pants plant, providing employment for 100 persons.

CANNON MILLS at Kannapolis, N. C., have received an order for \$500,000 worth of bath towels to supply the national chain stores of the Woolworth Company. The Charlotte Observer calls this one of the largest bath towel contracts ever made.

MISSOURI-KANSAS-TEXAS LINES, according to M. H. Cahill, chairman of the board and president, had 168 new industries to locate in its territory during 1931, despite the general lack of industrial development throughout the country. The new industries represent an investment of \$6,203,000 and are expected to provide employment for about 3000 persons and to produce an annual tonnage of 42,300 cars of freight.

LAMAR LUMBER Co., Bogalusa, La., whose mill has been closed for the past several months, is operating on an 8-hour basis, and at an early date hopes to operate on a 10-hour basis. For several weeks the woods crew has been at work getting out sufficient logs. The company's inventory has been greatly reduced and J. H. Grimmer, general manager, hopes to operate the plant for an indefinite period.

WESTINGHOUSE ELECTRIC AND MANUFACTURING Co. is adding 500 men at its Mansfield plant which is devoted to the manufacture of cabinets for the Westinghouse refrigerator.

U. S. OIL REFINING COMPANY, INC., New Orleans, H. M. Gilbert, secretary-treasurer, has taken over the old Southport Refining & Export plant at Southport, La., and on completion of a rehabilitation program 75 workers will be engaged.

CAROLINA NARROW FABRIC Co., Winston-Salem, N. C., has ordered additional machinery with a view to increasing the company's output 50 per cent.

TENNESSEE COAL, IRON & RAILROAD Co., Birmingham, has received an order for 2800 tons of steel tie plates for the Seaboard Air Line Railroad.

BUSINESS IMPROVEMENT was noted during 1931 in the textile and leather industries. Production and sales of boots and shoes, cotton, rayon and other fabrics showed a gain over 1930 and were above the ten-year average for these industries.

CUMMER-GRAHAM Co., of Paris, Texas, will shortly place in operation a new plant at Beaumont, providing employment for 150 to 200 persons. All lines of fruit and vegetable containers will be made.

GOODYEAR TIRE & RUBBER Co., Gadsden, Ala., recently shipped 22,000 tires in one day, setting a new high record. The plant began operations January 4 on a 5-day, 8-hour basis, affording employment for 1000 employees.

CLARK THREAD Co., Austell, Ga., has begun preliminary operations at its new mill, established at a cost of approximately \$1,500,000. Indications are that the plant will quickly get on a capacity production basis.

NORTH CAROLINA started the new year with many business, industrial and agricultural leaders confident that 1932 will be a better twelve-month. Reports from many sections of the state indicate new construction under way. The Champion Fibre Co., at Canton, is pushing work on a \$1,000,000 expansion program. At Greensboro a \$500,000 post office is under way. Raleigh is erecting a \$300,000 city auditorium. Wilmington has word that \$1,000,000 will be expended in the Army Engineer District for waterways improvements.

AMERICAN BEMBERG CORPORATION, with a huge rayon plant at Bemberg, near Elizabethton, Tenn., through its president, S. R. Fuller, Jr., announces that orders received in 1931 were more than double the total poundage ordered in 1930. "In no one of the important trade divisions did 1931 shipments fail to exceed 1930 shipments," says Mr. Fuller. "Especially noteworthy increases are found in the underwear trades and in the broad silk industry. Shipments to hosiery mills and cotton manufacturing concerns also showed substantial increases over any previous years."

SAN ANTONIO, TEXAS, during 1931 added 44 new manufacturing plants, in addition to the expansion of a number of its older industrial enterprises.

COTTON MANUFACTURING in the South, in the past two weeks has shown an increase in production, with many mills resuming day and night operating schedules.

ATCHISON, TOPEKA & SANTA FE RAILWAY has placed an initial order with the Safety Car Heating and Lighting Company of New York for ten steam-type cooling systems to provide air conditioning equipment for dining cars on its transcontinental trains.

INDUSTRIAL DEVELOPMENT in Baltimore during 1931 embraced 45 new plants, and expansions to 52 others, representing a total investment of \$4,000,000. H. Findlay French, director Industrial Bureau of the Association of Commerce, commenting on this expansion as the leading factor in making the general employment situation in Baltimore better than in other large industrial centers in 1931, said: "The results obtained by the Industrial Bureau in 1931 added new firms which will spend between \$2,000,000 and \$5,000,000 in Baltimore annually, the last quarter of 1931 being particularly fruitful in such results."

CAROLINA CROSSARM Co., Elkin, N. C., with many orders booked for immediate shipment, has resumed operations, having closed several months ago. It is one of only four important plants of its kind in the country. In addition to making telephone and telegraph supplies, building materials and hickory furniture are turned out.



## MONTGOMERY MOVES FORWARD

Crop Diversification Aids Agricultural  
Stability and Industrial and Building  
Activity Relieve Unemployment  
Situation

Montgomery, Ala.—In a bulletin issued in December by the Montgomery Chamber of Commerce under the caption, "Montgomery Is All Right," it is pointed out that Montgomery has weathered the depression in great fashion and is ready to move forward with the return of normal conditions. Conservatism is declared to have been the city's salvation.

During 1931 the Montgomery area is said to have harvested the most varied and largest food crop produced in more than a generation. Barns, smokehouses and pantries are overflowing with the necessities of life, with the promise that cheap crops will be produced in 1932. The 50-mile retail area of Montgomery is estimated to have produced 25 per cent more cotton than in 1930, and many times more foodstuffs of every kind and variety. More cattle and hogs and poultry were distributed among a greater number of people, and more men were engaged in making a living on the farm than for many years. Pecans, fruits, vegetables and other home-grown products have been preserved in abundance, and the people of the area, to a large extent, are sufficiently self-sustaining to overcome the low price of cotton.

The cotton crop for the year is valued at \$525,000, while the value of dairy products sold from the territory is estimated at \$2,375,000. During the year, the Union Stock Yards, Montgomery, paid out a daily average of \$5315 for cattle and hogs, without considering other buyers of livestock. In addition to a permanent payroll of \$3000 daily to the personnel of the Tactical School at Maxwell Field, an expenditure of more than \$5000 daily has been made for labor and material for construction activities. It is estimated that the payroll at Maxwell Field is sustaining from 4000 to 5000 people. During the rest of the winter and in the spring there will still be work for many men, and purchase of additional land for the field will release \$200,000. Congress is expected to make new appropriations for the Maxwell Field program, and it is anticipated that construction of an Air Corps Squadron School will be as significant as the Tactical School.

Contract is expected to be awarded soon for a \$1,000,000 post office, for which bids were opened January 5, and another contract for a Methodist Church building is also to be awarded in Janu-

ary. In addition, contracts for city paving, sewerage, and the extension of the highway program in Montgomery and adjoining counties will provide employment for many people.

Another bulletin, issued by the Montgomery Chamber of Commerce December 28, "Montgomery Turns the Corner," states that the city came through 1931 without serious business failures, closing the year with sound, safe banks and sound financial resources, and with an average of more than \$1000 on deposit in Montgomery banks for every Montgomery family. Many other bright spots in Montgomery's development are referred to, particularly the new residential sub-division, "the Cedars," on the Norman Bridge road, and to the growth and progress of the All States Life Insurance Company, with headquarters at Montgomery, which celebrated its third birthday on January 2 with more than \$20,000,000 of insurance in force.

Montgomery experienced its greatest convention year in 1931, and its hotels were more prosperous than in 1930. Prospects in this line for 1932 are bright. The year is expected to see the establishment of a U. S. air mail service from New York, via Montgomery, to Mobile,

New Orleans, Texas and California points. With this will come the establishment at the Montgomery municipal airport of a radio beacon and radio meteorological station. Passenger service in modern planes is also looked for. Downtown business activity is expected to take on new life with the building of the Redmont Tire (Goodyear) structure, the post office and other projects.

A third publication issued by the Montgomery Chamber of Commerce, carrying the caption, "Montgomery—The State Capital of Alabama," is devoted to a general description of the city and its advantages, and presents attractive illustrations of some of the outstanding buildings of the city, with agricultural scenes in the territory.

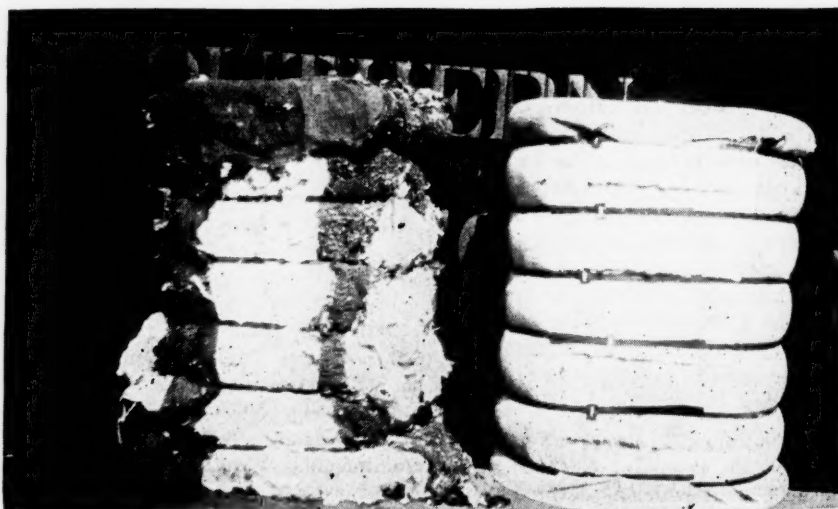
### Work Clothing Factory Moved

Cordele, Ga.—The Piedmont Manufacturing Co. has completed moving from Gainesville, Ga., and is now engaged in setting up machinery here for the manufacture of a complete line of work clothing. The company has a large building in Cordele and expects to operate from 100 to 125 machines.

## Cotton Burlap for Bagging

Suggestion that underwriters might inspire a change from jute to cotton burlap for cotton bagging, by preferential rates, has been made to Senator Kenneth D. McKellar of Tennessee by W. H. Gatchell of the Southern Railway System. "Certainly the cotton-covered bale does

not offer the fire hazard of the jute bale," Mr. Gatchell said. Such baling of cotton is described by Senator McKellar as the greatest opportunity for a new use of the staple, and he estimates that several hundred thousand bales of low quality cotton would be thus utilized.



New Cotton-Fabric-Wrapped Bale, Compared With Dilapidated Jute-Covered Bale



# Premixed Concrete Plant

Baltimore Interests Erect Unit to Produce Initially 1000 Cubic Yards Daily to Be Distributed in Mixer-Type Trucks

**T**HE Arundel-Brooks Concrete Corporation, Baltimore, has completed and placed in operation a premixed concrete plant, designed and constructed to manufacture concrete by the latest methods known. The symbol "R Concrete," has been adopted, to indicate that the material will be produced in the manner in which a druggist fills prescriptions and that each batch of concrete will be produced to meet any specification, design or condition.

The plant consists in general of washing and regrading screens which separate the gravel into four sizes and deposit it in reinforced concrete bins having a capacity of 3000 cubic yards. Sand is unloaded direct from barge into storage bins and the aggregate is carried by means of a belt conveyor to the operating tower. This part of the plant is constructed and designed to care for two more units similar to the initial installation. Present capacity is approximately 1000 cubic yards of concrete daily; by adding two similar units to the operating tower and concrete mixer, capacity can be increased to 3000 cubic

yards. Operating tower consists of storage for sand and four sizes of gravel as well as cement storage bins which are an integral part of it. On the second floor are controls and batch hoppers. Equipment includes two boilers to supply steam for protecting the aggregate from excessive freezing. A hot water heating system supplies mixing water to facilitate year-round operations.

Sand, gravel and cement is weighed in the batchers and the water accurately proportioned in accord with the design of concrete required for each particular mix or strength. The batchers discharge into a  $4\frac{1}{2}$ -cubic-yard concrete mixer which in turn discharges into the agitating or mixer bodies mounted on motor trucks. Cement is delivered to the plant in bulk in battleship gondola cars specially built for cement handling. These discharge into a hopper and cement is conveyed to the tower storage bins by means of screw conveyors and bucket elevators.

The company operates a fleet of 3- and  $4\frac{1}{2}$ -cubic-yard combined mixer and agitator trucks. These embody the latest

developments in rotating mixer bodies, and from tests actually made are said to show an increase in strength of the concrete from cylinders taken at the plant and cylinders taken after hauling. Bodies are mounted on Autocar and Mack trucks. A rear end or so-called "Jackass" hoist allows the discharge end of the mixer to raise 34 inches off the chassis and thereby to make the discharge point of the mixer body approximately eight feet from the street level. This eliminates the necessity for construction of ramps and extra size wet hoppers, and permits discharge into comparatively high forms, making possible the deposit of concrete over a big area by using a longer chute from a higher elevation. C. L. Langenfelder & Son, Baltimore, have the contract for hauling.

Inspection at the plant and upon delivery is planned to assure to users exactly the kind of concrete specified. E. L. Conwell & Co., Philadelphia engineers, have established a laboratory at the plant where their inspectors check the weights of all aggregates, also the water for each batch of concrete. The inspectors stamp and certify each delivery ticket. It also is their duty to determine the moisture content of the sand and gravel several times daily in order to make correct allowances in the amount of water added, and to inspect all sand and gravel before it is unloaded at the plant and to run mill tests on each carload of cement used. Cars are delivered to the plant as "Conwell Tested," with seals on the car doors.

The Arundel-Brooks Concrete Corporation designed and constructed the plant with its own forces. Material and equipment firms included the following:

**Operating Tower (Conveyors, Screens, Bucket Elevators, Belts)**—Stephens-Adamson Mfg. Co., Aurora, Ill.

**Concrete Mixer**—Ransome Concrete Machinery Co., Dunnellen, N. J., through Henry H. Meyer Co., Baltimore

**Mixer Bodies (Rex Moto Mixers)**—Chain Belt Co., Milwaukee, Wis., through Stuart M. Christliff & Co., Inc., Baltimore

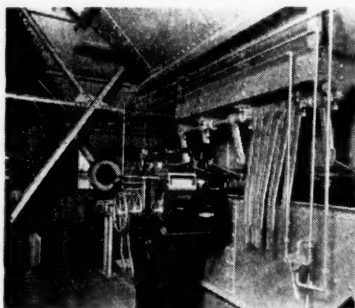
**Trucks**—Mack International Motor Truck Corp., New York and Baltimore; and Autocar Co., Ardmore, Pa., through Autocar Sales & Service Co., Baltimore

**Garage**—Maryland Metal Building Co., Baltimore

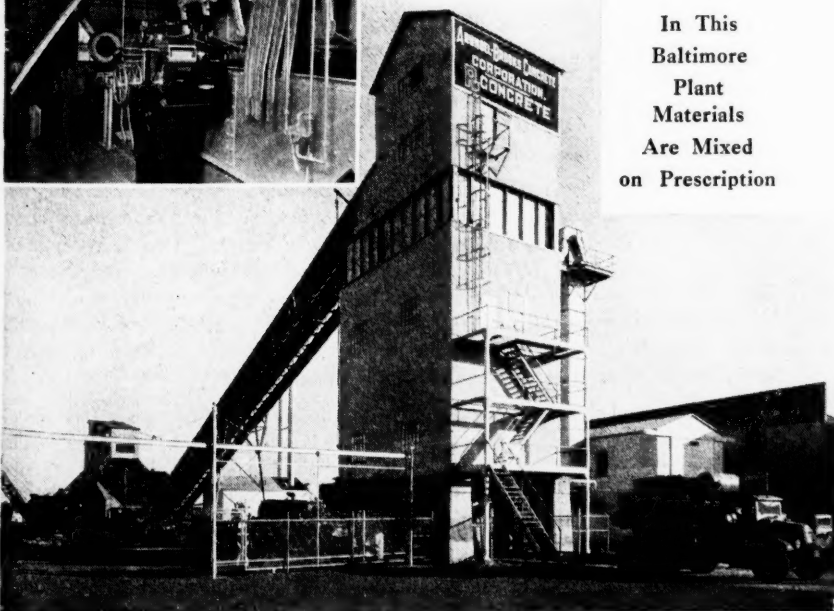
**Electrical Work**—Stark Electric Co., Baltimore

**Hoists**—Hell Co., Milwaukee, Wis.

**Boiler and Pipe Line Covering**—Wallace & Gale Co., Baltimore.



An Interior View



In This Baltimore Plant Materials Are Mixed on Prescription

# IRON, STEEL AND METAL MARKET

## Steel Shows No Change

Pittsburgh, January 11—[Special.]—Conditions in the steel trade are much the same as just before the holidays. There was a lull in production and shipments by reason of the holidays and January 1 inventory taking. By comparison with early December there is a decrease in activity.

The condition may perhaps best be described by saying that there is a continuance of the general holiday dullness. This is contrary to precedents, which call for improvement immediately with the turn of the year but is natural in the circumstances. The precedents were made in active times when preparation for spring business began early. It is true that after the depression started there were marked revivals early in 1930 and 1931, but later these came to be viewed as false starts, indicated by the sharp declines that occurred afterwards.

According to the official reports, Bessemer and open-hearth steel ingot production was at 27.76 per cent of capacity in October, 30.01 per cent in November and 23.58 per cent in December. The November increase was curious and due to special conditions. In general there was decreasing production month by month after March. Even with the little spurt in November the fourth quarter average was just one-half the high rate of March, about 18,000,000 tons a year against 36,000,000 tons, while actual production in the whole year was about 25,000,000 tons.

Six months and more ago there was talk in the steel trade about demand having reached an irreducible minimum, and when later on some consuming lines became still less active such references disappeared. There are many now, however, who feel reasonably certain that recent and current steel demand is below the actual ultimate consumption including the wearing out or depreciation of facilities, that arrearages are accumulating even after full allowance for the reduced rate at which the country is running, for it is still certainly a going country. A simple illustration is furnished by the fact that, according to annual statistics of the Railway Age only 13,205 freight cars were built in 1931, apart from 409 for export, and even with all the decrease there has been in traffic that would be quite insufficient to keep up the traffic. Assuming for computation that three-fourths of the freight cars are in service, and only those deteriorate, freight cars would have to last 125 years if the supply could be kept up

by building 13,205 cars a year. Only 11 passenger cars were ordered in 1931 for home use, there being in addition 21 for export. In automobiles, again, production in the last three months has been far below the number necessary to keep up even a materially reduced supply of cars.

The steel trade feels convinced that the lowest possible steel demand has now been experienced, and looks for improvement in course of time along three different lines, ordinary seasonal, recovery from extreme caution on the part of buyers all down the line, and improvement in general business conditions.

The first improvement, of purely seasonal character, is expected around March 1, on the approach of spring. Ordinarily this improvement has begun at the turn of the year, but by reason of anticipations, and now there is too conservative a spirit all around for anticipations.

Prices of some finished steel products, indeed the majority, have recently declined or weakened and are distinctly unsteady at the present time. In ordinary times such uncertainty discourages buying, but in present circumstances the influence counts for little or nothing for there has been no buying except of absolute necessity so that there could be no putting off. The price outlook is unpromising in several lines, for prices had been very stable indeed for months and once a decline starts the typical buyer feels that it may continue. Full prices would still leave losses, with such light operation, and mills that have been cutting appear to have been thinking chiefly of maintaining their position in the trade.

## The Metals Remain Quiet

New York, January 11—[Special.]—The metals have still been under the influence of the holidays, and dullness as regards inquiries and sales is the rule. Even lead, which is usually counted on to be active when other metals are quiet these days, has been rather lifeless, sales being confined to a few carloads per day. However, an improved tone became noticeable by Thursday in most of the metals.

Whereas on Wednesday new strength came to the stock market and many commodities, the metals were inclined toward weakness. Silver dropped  $\frac{1}{8}$ ¢ per ounce to 29 $\frac{1}{2}$ ¢, the lowest price in sev-

eral days. Zinc was sold at 3.07 $\frac{1}{2}$ ¢ per pound, East St. Louis, which is \$1 per ton under the bottom point of 1931 and the lowest since 1894. Lead was holding at 3.75¢ per pound, New York, the bottom point of 1931, but consumers were suspicious as to whether that price would hold.

The weakness of the stock market the first two days of the week evidently tended to discourage confidence on the part of metal buyers. At the same time there have been cheerful developments. Officials of the American Brass Co. report an increase of orders at all of their branch plants; another brass maker finds that December business was better than that of October and November. Another brass maker reports anticipation of improvement soon. This all indicates that consumption of copper in brass making is on the increase.

The steel industry is forging ahead in pace, the general average being 25 per cent of capacity as against 20 per cent during the holidays. The Alabama steel makers are gaited at 50 per cent of capacity. Automobile production for December is estimated at 110,000 units, or 40,000 more than for November, with predictions of a production of 140,000 cars and trucks in the United States and Canada during January.

Statistics have appeared for some of the metals for December and hence for the year. Copper statistics are still lacking, the American Bureau of Metal Statistics having failed to announce figures for three months, the assumption being they are so bad that certain producers do not wish them to be made public. In the case of zinc, surplus stocks declined nearly 14,000 tons over the year, the only metal in which the trend was favorable.

The world's visible supply of tin at the close of the year was 51,313 tons as against 42,498 tons at the close of 1930. It is presumed that stocks of lead made a net increase for the year. Though official copper statistics have not been issued it is believed that surplus stocks of refined copper are by now 550,000 tons, while total blister and refined stocks are 725,000 tons, in both cases the largest on record.

At the middle of the week it was being rumored among stock brokerage houses that an advance in the price of copper to the extent of a half cent per pound was imminent. It was believed that such an advance would be based on an announcement of revised selling plans by Copper Exporters, Inc. The undertone



of the market was weak until Thursday when it became stronger. Though official prices are unchanged at 7¼¢ per pound in the home market and 7½¢ for export, some second hand copper for January shipment was offered early in the week as low as 6½¢ per pound, delivered. The next event awaited in copper circles is the announcement of the new marketing plans of the copper export association, which are expected to contain a radical departure from previous methods. In other words, it is believed that no attempt will be made to peg prices for sales abroad but that each producer will be allowed to be his own judge of what the proper price should be.

Export sales of copper were poor until Thursday when 1100 tons were sold. It is expected that any improvement in copper purchasing will come from abroad. It is believed that the low volume of export sales is not due to any suspicion as to the strength of the market but rather to the fact that European consumers do not need more metal just now.

American copper producers are now taking drastic steps to cut production in line with the recent world agreement. The Anaconda Copper Mining Co. has closed down one of its principal mines. The Phelps Dodge Corporation is producing this month 8,500,000 pounds as against a former production of 17,000,000 pounds a month. The refinery of the Nichols Copper Co., at El Paso, Texas, will be reduced to a production of 3000 tons monthly as against its present output of 8000 tons a month. The smelter of the American Smelting & Refining Co. at El Paso will cut production to half its present rate.

### Encouragement in Birmingham

Birmingham, Ala., January 11—[Special.]—With hope of further business being placed, encouragement is noted in iron and steel circles of the Birmingham district, as some of the plants which have been idle for weeks and months are back on partial schedules. The one larger hope is that there will be additional orders from railroads, so that operations at the rail mill of the Tennessee Coal, Iron & Railroad Company at Ensley, with the five open hearth furnaces and the additional blast furnace can be continued indefinitely.

Five blast furnaces are now making pig iron, three on basic and two on foundry. There is belief that during the month reduction of the surplus stock can be accomplished, though not to any great extent. Base price of pig iron is unchanged, \$12 being asked on No. 2 foundry.

dry for use in the home territory and \$11 for that shipped to other districts. Demand has started off slowly or rather it is to be stated that melters are maintaining the policy of buying in just as small lots as possible and also purchasing frequently.

Small lot orders of steel in various shapes are coming in. Railroads are buying track fastenings and tie plates quite actively and the mills on this class of steel will be kept busy for some time. Structural steel fabricating shops are working on backlogs with the smaller tonnage orders coming in keeping up the pace of 40 per cent capacity.

Cast iron pressure pipe makers report a little hesitation in business by reason of municipalities now finding some difficulty in financing projects which would require pipe. This industry is estimated in operation now between 30 and 40 per cent capacity.

Larger machine shops and foundries of the district have several contracts of more or less size in sight, with operations starting off slowly.

Seaboard Air Line Railroad placed an order for 2800 tons of steel tie plates with the Tennessee Coal, Iron & Railroad Company.

The Weir Kilby Corporation, manufacturing frogs and switches, reports business received from the Louisville & Nashville Railroad, the Nashville, Chattanooga and St. Louis Railroad and the Atlantic Coast Line Railroad to warrant steady operation of the Birmingham plant for some time with reduced forces. The Weir Kilby has a plant in Cincinnati and reports acquisition of the Cincinnati Frog & Switch Co.

Coal production in Alabama last year is estimated at 12,250,000 tons against 16,007,000 tons the previous year. There were 27 fatalities in the industry. DeBardeleben Coal Corporation mined 800,000 tons of coal during the year without a single fatality and Tennessee Coal, Iron & Railroad Company went 14 months, mining 1,750,000 tons of coal with only one fatality.

Pig iron production in Alabama in 1931 amounted to 1,638,952 tons against 2,394,725 tons in 1930.

Four cement plants in the state established safety records and will receive safety awards from the Portland Cement Association. The Leeds plant of the Universal Atlas Cement Co. worked 379 consecutive days to January 1, 1932, without accident. Lehigh Portland Cement Company's Birmingham and Lone Star Cement Company's plants in Birmingham and Spocari also went through the year without an accident.

Survey is being made again by United States engineers of the Warrior River between Birmingham and Tuscaloosa,

looking to the raising of the dam at lock 17, making it available for hydro-electric development, and the elimination of two or more dams and locks near Tuscaloosa to expedite the waterway. W. H. McAlpine, Louisville, Ky., head engineer in the United States Engineer Department, who has worked many years on dams and locks on the Ohio River, and Lenvik Ylvisaker, civil engineer of St. Louis, are in the district now as consulting engineers to Colonel W. D. A. Anderson, United States district engineer at Mobile, on the inspection and locating of new dams and locks. Contracts are being worked on by the Mott Core Drilling Co. of Huntington, W. Va., on exploration by core drilling of foundation sites near Tuscaloosa and Eutaw, Ala. The government plans extensive development on the Warrior river during the year, possible commercial water supply for immediate Birmingham district being included.

Coke production started off the year at about 50 per cent of normal production. Upwards of 600 out of 1390 ovens at by-product coke works are producing.

Surveys on clays, chemical development, wood pulp and other endowments of the state are under way. The Swann Corporation announces progress on a concentrated fertilizer during the past year, with research under way in other directions of a chemical nature.

### PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$12.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50; iron of 2.75 to 3.25 per cent silicon, \$13.00; iron of 3.25 to 3.75 per cent silicon, \$13.50.

### OLD MATERIAL

Steel rails	\$10.00 to \$11.00
Steel axles	12.00 to 13.00
Iron axles	12.00 to 13.00
Heavy melting steel	7.00 to 8.50
No. 1 cast	9.00 to 10.00
Stove plate	7.00 to 8.50
No. 1 R. R. wrought	7.00 to 8.00
Car wheels	8.00 to 9.50
Tramcar wheels	8.50 to 9.50
Machine shop turnings	3.00 to 3.50
Cast-iron borings	3.00 to 3.50
Rails for re-rolling	10.25 to 11.00

### \$2,500,000 Utility Expenditures

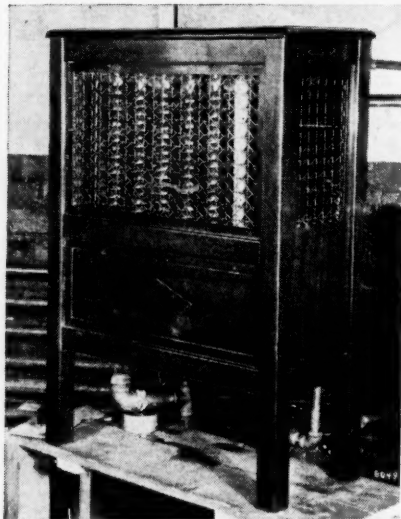
Dallas, Tex.—Subsidiaries of the Central & South West Utilities Co., Dallas, will expend more than \$2,500,000 in 1932 for construction work, according to announcement here. This work will include the completion of a 16,000 horsepower hydro-electric generating plant at Eagle Pass, Tex., of the Central Power & Light Co., San Antonio, as well as extensions to serve the East Texas and West Texas oil fields, and interconnections and transmission lines to increase efficiency and economy. Short extensions and additions to serve new customers, both industrial and domestic, will also be provided.



# NEW AND IMPROVED EQUIPMENT

## Sturtevant Humidifier

An accompanying illustration shows the Sturtevant household humidifier, manufactured by the B. F. Sturtevant Company, Inc., Hyde Park, Boston, Mass. A well-finished furniture steel cabinet provides a humidifying surface that will evaporate up to 2½ gallons of water per hour on 2-lb. steam pressure or slightly less on vapor or hot water systems. The cabinet is 31 inches high by 25 inches wide by 12 inches deep. The unit has a heat capacity equivalent to 35 square feet of direct radiation, and



For Household Use

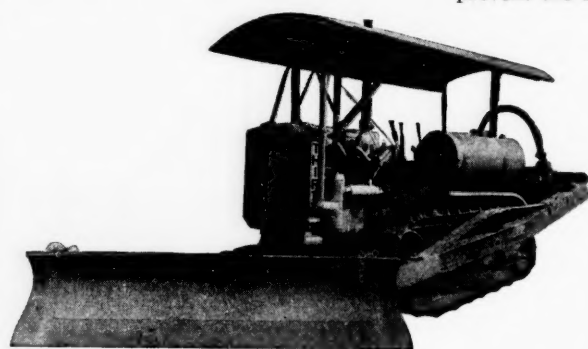
is equipped with a quiet propeller fan for forced circulation of air. A copper drip pan connects to a waste pipe, while a ¼-inch water line is brought to the unit for a necessary water supply to the evaporating surface.

## Triangular Cross-Section Tire

The General Tire & Rubber Company, Akron, Ohio, announces the first passenger car tire to be designed with a triangular instead of a round cross-section. With almost straight, stream-lined side-walls, the new tire will carry two and one-half times the volume of air contained in the ordinary balloon tire for the same size car, it is declared, and will operate at about one-third the air pressure required for ordinary balloons. Built like a pyramid, with its apex at the tread and the broad base attached directly to an enlarged hub, the new tire will eliminate ordinary automobile wheels. It is known as the General Streamline Jumbo.

## LaPlant-Choate Road-Builder

The LaPlant-Choate Manufacturing Co., Inc., Cedar Rapids, Iowa, manufacturers of hydraulic operated tractor equipment for "Caterpillar" tractors, have developed the LaPlant-Choate road-builder for digging in uneven ground, rocks, clay, decomposed granite and other material found in mountainous regions. It is intended for use with the "Caterpillar" Thirty (standard and hillside), as made by the Caterpillar Tractor Co.,



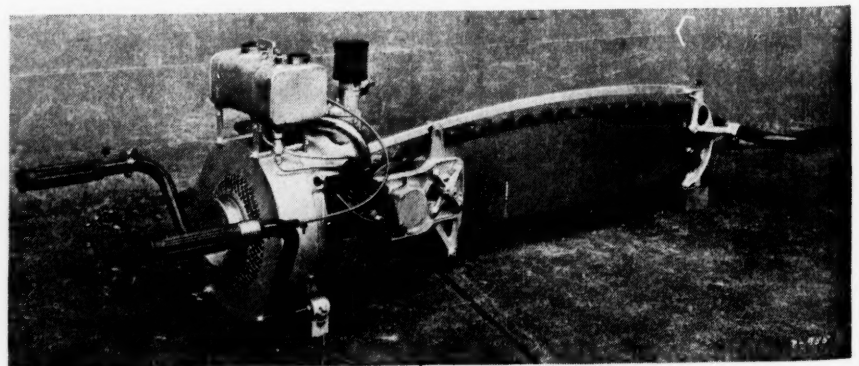
Designed Primarily for Building Trails and Motor Roads in Mountain Districts

Peoria, Ill., and is of extra strong construction so that it can be subjected to the full power plus the impact of the tractor in the toughest going. With a specially designed moldboard and cutting bits on each end of the blade, the unit has proven very practical. Pointed cutting landsides at each end of the blade are of alloy cast steel, heat-treated and designed to withstand the hardest plowing on mountain roads. The points are so designed that they act as a side cutting edge and also as a landside to prevent the blade from digging too deep-

ly into the cut. The moldboard is designed to roll the earth forward and to one side, while the blade may be set at a 30-degree angle so that a portion of the dirt is carried forward to balance the grade while the unnecessary portion is spilled to the side. Thus the blade performs the function of both bulldozer and back-filler when set at an angle.

## Gas Driven Portable Timber Saw

An accompanying illustration shows the new "Wolf" gas-engine driven portable timber saw, companion to the a. c. and d. c. electric and air driven machines made by the Reed-Prentice Corporation, Worcester, Mass. More than 500 of these machines are said to be in use in railroad, mining, marine, general construction and other work. Chain, saw frame and drive units are the same on all models. Saw housings connecting with the gas engine are made to swivel, providing for horizontal or vertical cutting, as in felling and bucking timber.



Designed for Horizontal or Vertical Cutting

The new unit is available in 16 and 24-inch capacities, weighing 70 and 73 pounds, respectively. Design of the engine and the materials used in its construction are of the latest aircraft practice, the engine being controlled by the rolling motorcycle type of throttle and stopped by a thumb latch on another handle which breaks the connection. It is started with a cord on the principle of the outboard motor. The gas engine, of the two-cylinder opposed, four-cycle type, is available as a separate unit for industrial uses, as for pumps, agricultural and construction machinery, railroad hand cars, light and power plants.

# CONSTRUCTION DEPARTMENT

## and NEW ENTERPRISES

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

The Daily Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

### Airports, Airplane Plants, Etc.

La., Barksdale Field—Capt. Geo. E. Lamb, Const. Q. M., Shreveport, reported, receives bids Jan. 20 for constructing gasoline fueling station Barksdale Field; cost \$20,000; plans and specifications on file; also receives bids in Jan. for \$25,000 sewerage pumping plant, \$46,000 combination fire station and guard house, and gridiron drainage system and installation of underground conduit system.

La., New Orleans—Wm. E. Arthur, Pres. of National Airport Engineering Co., Ltd., 755 E. Washington St., Los Angeles, Calif., reported, submitted final plans and specifications to Bd. of Commrs. Orleans Levee Dist. for construction administration building, hangars 1 and 5, emergency and storage building and repair building for Shushan Airport on Lake Pontchartrain; plans submitted to John Klorer, Ch. Engr. of Orleans Bd.; will probably call for bids this month; after buildings are constructed, runways, lighting system (flood light and beacons) and fences will be constructed; administration building, \$167,000, will be 2 stories, 300x70 ft., of Spanish Renaissance architecture, brick, conc. and fireproof; consist of central portion and 2 wings; first floor include space for handling mail, Dept. of Commerce representatives, waiting room, storerooms, stores, etc.; second floor for sleeping quarters; observation tower with special glass, lounge rooms and tower to contain radio rooms, meteorological departments, beacon service, etc.; install steam heat and forced ventilation system; 2 hangars, \$117,000, 225x125 ft., 24 ft. high, steel construction, Spanish type, with cantilever steel truss roofs, brick exterior walls, stucco finish, pile foundation, steel sash, plumbing, heating, etc., will contain dressing rooms for pilots, shops, etc.; emergency and storage building, \$18,000, steel truss, fireproof construction, brick walls, wood sash and doors, hospital facilities, ambulance garage, fire engine space, etc.; repair and storage shop building, \$30,000, 120x100 ft., of same construction as storage building. 10-22

Tenn., Nashville—State Aircraft Corp., Glendale, Calif., Phillip H. Harsh, Director, care of R. C. Harsh, 2801 Brightwood Ave., Nashville, reported, considering establishment of plant for manufacture all-metal dirigible; organize subsidiary company.

Tex., Duncan Field—Jud & Ormand, 703 N. Flores St., San Antonio, have sub-contract for heating and plumbing for engineering shop, A. J. Rife Construction Co., 1913 N. Harwood St., Dallas, Tex., Gen. Contr., and for plumbing and heating for 2 air corp hangars for which Kenneth L. Colburn, Inc., Pasadena, Calif., is Gen. Contr. 1-7

### Bridges, Culverts and Viaducts

#### Proposed Construction

La., Harvey—Texas & Pacific Ry. Co., E. F. Mitchell, Ch. Engr., Dallas, call for bids at once for conc. bridge foundation in connection with U. S. Engrs. track raising work; consist of 4 conc. piers underground, 2 27x69 ft., others 20x48 ft., all 30 ft. high; 2500 cu. yd. conc. (See Railways, 12-31.)

Md., Towson, Baltimore—Baltimore County, J. P. Grayson, County Engr., denies report county plans bridge, Marlyn Ave. over Deep Creek. 12-17

Mo., Kansas City—City has preliminary

plans for \$300,000 Walnut St. viaduct over Terminal R. R. tracks; Ash, Howard, Needles & Tammen, Engrs., 1012 Baltimore Ave.

Oklahoma—State Highway Comsn. receives bids for 3 bridges. See Roads, Streets and Paving.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, opens bids Jan. 18 for 6 bridge projects in following counties:

Austin—272.58 ft. Ballinger and Deadman's Creek bridges, 100,935 lb. rein. steel, 2255 lin. ft. 16-in. square conc. piling, SAP 531-B (large structures), Highway 36;

Burleson-Washington—883.5 ft. Yegua Creek bridge, near Somerville, 115,917 lb. rein. steel (new billet), 342,617 lb. struc. steel, 5910 lin. ft. treated timber piling, 9,200 ft. b. m. treated timber, 1767 lin. ft. bridge railing, M-17-W-3;

Young—0.549 mi. Salt Fork and Brazos River bridge near New Castle, 11,980 cu. yd. excavation, 172,098 lin. rein. steel (new billet), 889,654 lb. struc. steel (trusses and piers), 81,330 lb. struc. steel (I-beam spans); alt. for rein. steel, 24,860 lb. (new billet), 147,238 lb. rail rein. steel, SAP 998-A, Highway 120.

Jeff Davis—\$23.5 ft. 6 conc. deck girder bridges over Limpia Creek and 7 conc. box culverts, 350,835 lb. rein. steel, 147,042 lb. struc. steel (bents), 1647 lin. ft. conc. railing (low type), SAP 516-B, Highway 17;

Pecos—977.92 ft. 9 multiple box culverts and span conc. deck girder bridges, 22-ft. roadway, conc. bents and abutments, 1871.03 cu. yd. class "A" conc., 350,835 lb. rein. steel, 147,042 lb. struc. steel (bents), 1647 lin. ft. conc. railing (low type), SAP 516-B, Highway 17;

Pecos—977.92 ft. 9 multiple box culverts and span conc. deck girder bridges, 22-ft. roadway, conc. bents and abutments, 4957 cu. yd. excavation, 2081.49 cu. yd. class "A" conc., 376,683 lb. rein. steel, 1687.09 lin. ft. conc. railing (low type), FAP 618-E & F (large structures), Highway 27;

Real—623.2 ft. conc. deck girder bridges, conc. bents and abutments and 3 multiple box culverts, 1553.31 cu. yd. class "A" conc., 279,657 lb. rein. steel, SAP 986-C (large structures), Highway 4.

Texas—State Highway Comsn. opens bids for 2 bridge projects. See Roads, Streets and Paving.

Texas—State Highway Comsn., C. G. Wickline, State Bridge Engr., Austin, plans bridge over Intracoastal Canal, 1 mi. south Port Arthur; bridge to be built on dry land and canal dredged under it following construction.

Tex., Houston—J. M. Nagle, City Engr., submitted proposition to W. E. Monteith, Mayor, for 1700-ft. underpass, Texas Ave. at International-Great Northern yards and extending street into Harrisburg Blvd., \$350,000; J. G. McKenzie, City Bridge Engr.

Virginia—See Roads, Streets and Paving.

W. Va., Phillip—State Roads Comsn., Geo. E. White, Sec., Charleston, plans replacing covered bridge with modern conc. and steel structure.

#### Contracts Awarded

Florida—State Road Dept., Robert W. Bentley, Chmn., Tallahassee, let contract to C. T. Felix, St. Petersburg, at \$24,479, for 2 conc. steel, timber bridge, Proj. 875, Sumter and Hernando Counties. (See Roads, Streets and Paving, 12-17).

Md., Baltimore—City Bd. of Estimates, approved changes in construction of Lafayette Ave. bridge over Pennsylvania R. R. tracks, to cost \$13,000 additional; Morocco Construction Co., 231 S. Exeter St., Gen. Contr. 9-10

Tenn., Danville—Virginia Bridge & Iron Co., Roanoke, Va., reported, has contract for 3200 tons steel for bridge over Tennessee River for Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Louisville, Ky. 7-30

### Canning and Packing Plants

La., Hammond—Tangipahoa Products Corp., reported, has site for erection cannery; install cold pack plant for strawberries; Allen H. Daughdrell, in charge.

Okl., Muskogee—H. B. Binkley and B. V. Gill, of Carrots Products Co., Oklahoma City, reported, interested in establishment of carrot products plant, including flour, jelly, breakfast food.

### Clayworking Plants

Ga., Macon—Re-organization completed of Bibb Brick Co. under name of Bibb Brick & Tile Co., W. Jordan Massee, Chmn. of Bd. and sales director for re-organized company; Henry K. Burns, Pres.

### Coal Mines and Coke Ovens

Ark., Fort Smith—Stewart Coal Co., incorporated; P. R. Stewart.

### Drainage, Dredging and Irrigation

Georgia—U. S. Engr. Office, Savannah, let contract to Parkhill Dredging Co., Florida Theater Bldg., Jacksonville, Fla., for dredging 48,000 to 55,800 cu. yd., Balleys Cut, Satilla River and Dover Creek.

Louisiana—U. S. Engr. Office, First New Orleans Dist., Poland and Dauphine Sts., New Orleans, has low bids for dredging Louisiana and Texas Intracoastal Waterway, Mississippi River-Atchafalaya River Section, Harvey to Bayou Blue, approx. 6,554,100 cu. yd., place measurement: Harvey Canal No. 1 Sec., Item 1, 2,493,600 cu. yd., McWilliams Dredging Co., Canal Bank Bldg., New Orleans, 9.97 cents per cu. yd.; Bayou Pero Sec., Item 2, 2,370,000 cu. yd., Atlantic, Gulf & Pacific Co., 13 Park Row, New York, 5.59c; Harvey Canal No. 2 Sec., Item 3, 777,100 cu. yd., Woods Bros. Construction Co., Lincoln, Neb., 12.4c (only bidder); Company Canal Sec., Item 4, 913,400 cu. yd., McWilliams Dredging Co., 6.98c; combination Items 2 and 3, all or none, Atlantic, Gulf & Pacific Co., 5.95c; combination Items 2, 3 and 4, all or none, Clark Dredging Co., 357 S. W. North River Dr., Miami, Fla., 4.9c; combination Items 1, 2, 3 and 4, all or none, Standard Dredging Co., 233 Broadway, New York, 6.29c. 12-10

Louisiana—War Dept., Washington, D. C., recommended that Congress authorize \$45,000 for waterway form Intracoastal Canal, Houma to Bayou Dulac, 5 ft. deep, 40 ft. wide, 16.5 mi. long, through Bayou Le Carpe, Bayou Pelton and Bayou Grand Caillou.

La., Barksdale Field, Shreveport—Capt. Geo. E. Lamb, Constructing Quartermaster, let contract to Shuptrine Construction Co., Oakdale, for dredging and improving Cooper's Bayou; work sublet to Wills Construction Co., Alexandria. 12-24



## Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Ky., Carlisle—Kentucky Utilities Co., Inc., Louisville, reported, granted franchise for power lines in Nicholas county.

Miss., Starkville—Fairbanks, Morse Co., 1000 St. Charles Ave., New Orleans, La., reported, has contract for all material and complete construction electric light and distribution system; Swanson-McGraw, Inc., Balter Bldg., New Orleans, La., Constl. Engrs. 12-24

Okl., Chickasha—City, reported, granted 25 yr. franchise to Southwestern Light & Power Co., Braniff Bldg., Oklahoma City.

Tenn., Jellico—City reported, defeated \$150,000 light and power bonds, E. S. Miller, Chrmn. Light & Power Committee.

Tex., Dallas—Central & South West Utilities Co., 1100 Allen Bldg., subsidiaries, reported, expend \$2,500,000 for new construction work in 1932; work will include the completion by Central Power and Light Co., San Antonio, of 16,000 h.p. hydro-electric generating station at Eagle Pass as well as extensions to serve increased business in east Texas and West Texas oil fields; interconnections and transmission lines throughout the properties; extensions and additions to serve industrial and domestic customers.

## Flour, Feed and Meal Mills

Mo., Kansas City—J. E. Rahm Grain Co., capital \$50,000, incorporated; J. E. Rahm, Carl Rubick.

Tex., Denton—Cole Mill, Ralph Cole, reported, rebuild burned elevator.

## Foundry and Machine Plants

Mo., Carthage—Standard Machine & Mfg. Co., reported, plans rebuilding burned portion of plant. 12-24

Mo., Kansas City—Omega Machine Co., incorporated; E. E. Harper, 3031 Park St.

## Garages and Filling Stations

D. C., Washington—C. H. Tompkins Co., 1608 K St., N. W., reported, low bidder at \$44,200, for auto laundry building for Parking Stores, Inc., Conn. Ave. & Ordway Sts. 12-31

Fla., Clewiston—Glades Auto Sales, Inc., chartered; T. C. Hobbs.

Fla., Miami—Atlantic Refining Co., 7380 N. W. Seventh Ave., reported, erect service station N. W. 7th Ave. & 19th Terrace; brick and stucco; Halsema Bros., 1452 N. Miami Ave., low bidders.

Ga., Atlanta—Morris & Brown, Inc., 425 Courtland St., N. E., reported, has contract for garage Courtland St., N. E.; 1 story; 70x120 ft.; conc. foundations; brick walls; struc. steel.

Md., Baltimore—M. Hiberan, 2535 Shirley Ave., reported, construct garage, same address; conc. block; 1 story; David Harrison, Archt., 3735 Reisterstown Rd.

Md., Baltimore—Diamond T. Truck Sales Co. of Baltimore, 30 S. Eutaw St., chartered; Harrison W. Wagner, John P. White, Jr.

Md., Baltimore—Bernard F. Owens, Archt., 20 E. Lexington St., reported, take bids in spring on garage, central section; 1 story; 100x300 ft.

Md., Baltimore—Following estimating on 9 garages, Harlem Ave. near Hilton St., Bernard F. Owens, Archt., 20 E. Lexington St.; Chas. H. Henkel, 2740 Edmondson Ave.; Gregorck & Jagielski, 202 S. Patterson Park Ave.; Harry McLeod, Halethorpe, Baltimore.

Md., Baltimore—Hollyday & Stahl, 522 Park Ave., will probably construct auto laundry building N. E. Cor. Howard & Centre Sts., for Open Air Parking Co.; brick; stucco and conc.; 1 story; tile roof; Clyde N. & Nelson Friz, Archts., Lexington Bldg. 12-17

Md., Baltimore—St. Paul Realty Corp., Silver, 215 N. Calvert St., reported construct gasoline station 34th St. and Keswick Rd.

Miss., Jackson—J. M. Spain, Archt., Jackson, let contract to Frank Thompson, Jackson, for service station, President and Amite Sts., for American Oil Co. 12-24

Mo., Macon—Nisbeth-Noll Chevrolet Co., incorporated; John W. Nisbeth, Bevier.

Mo., St. Louis—Commercial Garage, Inc., chartered; F. W. Richard Rolf, 4541 Atholone St.

Mo., Warrensburg—Warrensburg Motor Co., incorporated; Tom B. Smith.

N. C., Roanoke Rapids—Nash Motor Co., Inc., capital \$50,000, incorporated; H. D. Camp.

Tex., Gladewater—McKaig Chevrolet Co., incorporated; H. L. McKaig, Graham.

Tex., Houston—Cadillac LaSalle Corp., capital \$75,000, incorporated; L. R. Willis, 2227 Bissonnet St.

Tex., Houston—A. D. Sory & Co., capital \$25,000, incorporated; A. D. Sory, 1604 Bissonnet St.

Tex., Palacios—Bay Chevrolet Co., incorporated; H. B. Farwell.

Va., Alexandria—Ford Motor Co., 3674 Schaefer Rd., Dearborn, Mich., having plans prepared by Albert Kahn, Inc., Marquette Bldg., Detroit, Mich., for Alexandria branch. 12-10

Va., Richmond—Cary Street Garage, Inc., capital \$15,000, incorporated; Wm. B. Eubank.

## Gas and Oil Enterprises

Ark., Warren—Pigeon Hill Oil Co., Inc., chartered; Joe B. Hurley, W. E. Phillips.

Ky., Prestonsburg—East Kentucky Gasoline Co., R. V. May, Pres., let contract to Joe T. Harris, for 35x75 ft. plant; install 13 gasoline storage tanks of 20,000 gal. each, pumps for unloading, etc. 1-7

La., Lake Charles—Magnolia Petroleum Co., Dallas, Texas, and Vacuum Oil Co., 61 Broadway, New York, reported, merged operations in Texas and Louisiana; will abandon Houston, Tex., headquarters of Vacuum Co.; W. C. Thomas, Lake Charles, will be production superintendent; both companies are subsidiaries of Standard Oil Co. of New York.

Mo., Martinsburg—City, reported, granted natural gas franchise to Missouri Power & Light Co., 740 Bd. of Trade Bldg., Kansas City; make connection with Texas Panhandle Co.'s line under construction across Audrain County and Montgomery County.

Mo., St. Louis—McAllister Oil Co., capital \$18,000, incorporated; Hudson W. McAllister, 1055 Theobald St.

Mo., Wellsville—Missouri Power and Light Co., Kansas City, reported, applied to State Public Service Comsn., Jefferson City, for authority to operate natural or artificial gas distribution system.

Tenn., Memphis—N. W. Harris Co., Inc., reported, soon offer new issue of \$750,000 Memphis Natural Gas Co.'s first mortgage, 6% 5 yr. sinking fund gold bonds, due Jan. 1, 1937; company delivers natural gas from Louisiana fields through pipeline to Memphis.

Tenn., Nashville—Dickson County Oil and Gas Co., Inc., W. E. Steger, Atty., Nashville Trust Bldg., reported, applied for natural gas franchise.

Tex., Harlingen—Peterson Woodruff Oil Co., incorporated; K. C. Woodruff, C. K. Peterson.

Tex., Houston—Hunter Petroleum Corp., F. E. Stevens, Jr., 2810 Rosewood St.

Tex., Fort Worth—Pittman Oil Corp. of Texas, capital \$50,000, incorporated; L. B. Otey, Petroleum Bldg.

Tex., Longview—Heartfield Oil Co., incorporated; C. A. Heartfield, G. B. Heartfield.

Tex., San Antonio—Medio Oil Co., capital \$25,000, incorporated; George E. Smith, 602 El Prado St.

Tex., San Antonio—Crowder Oil Co., capital \$15,000, incorporated; J. C. Crowder, 325 Shares St.

Tex., Tyler—Locke Drilling Co. incorporated; N. S. Locke, W. E. Farmer.

## Ice and Cold-Storage Plants

La., Jennings—Krielow Grain & Mercantile Co., Louis Krielow, Mgr., reported, plans cold storage plant.

N. C., Durham—See Greensboro.

N. C., Greensboro—Swift & Co., 235 S. Davie St., Chicago, Ill., reported, will probably delay letting of contract for office and storage building here until plans are completed for similar plant at Durham; combination bids on 2 plants will probably be called soon; have site on Tomlinson St., Greensboro, for building; 60x110 ft.; fireproof, install latest type equipment. 1-19

## Iron and Steel Plants

Ark., Crossett—Crossett Chemical Co., C. J. Warner, reported, construct \$125,000 plant to manufacture iron or steel from scrap iron using charcoal as fuel.

## Land Development

Fla., Palm Beach—Colony Beach Club, Inc., chartered; J. K. Williamson, N. Fletcher.

Fla., Miami—Biscayne Bay Section incorporated; L. Andrews, C. Morgan.

Fla., Panama City—Russ Brothers, Inc., chartered; C. E. Russ.

Fla., Tallahassee—Mountain Lake Groves, Inc., incorporated; G. V. Reilly.

Fla., Tampa—Flo-Haven Corp., incorporated; W. F. Himes, 1905 Bendlow Trail.

Fla., Tavares—Yale Groves, Inc., capital \$50,000, chartered; W. D. Yonally.

Md., Baltimore—Bloede Farm Corp., 709 S. Caton Ave., incorporated; Victor G. Bloede.

Md., Baltimore—Park Board, George Leroy Nichols, Gen. Supt., improve north square at Washington Monument; William Gordon Beecher, 12 E. Pleasant St., Archt.

Md., Hyattsville—Hyattsville Realty Co., incorporated; James W. Gill, Washington, D. C.; T. Howard Duckett, Hyattsville.

Mo., Caruthersville—Arl J. Dillman & Son, Inc., capital \$100,000, chartered; Arl J. Dillman.

Mo., St. Louis—Crawford Investment Co., 9301 N. Broadway, incorporated; Fred A. Newberger, 6211 Julian St.

Mo., St. Louis—L. M. Brohammer, Inc., chartered; Florence E. Brohammer, La Due Village, Clayton.

Mo., St. Louis—Pape-Johnson-Fried & Co., Inc., chartered; Edw. W. Pape, 4200 Lawn St.

Mo., St. Louis—Apex Realty Co., incorporated; Frank E. Morris, 705 Chestnut St.

Mo., St. Louis—Mardel Realty & Investment Co., incorporated; Walter Brinker, 3601 Lawn St.

Okl., Ponca City—Indian Hills Resort, Inc., 209½ E. Grand St., let contract to Atherton Construction Co., Ponca City, for construction dam and spillway to create artificial lake; cabin sites to be sold for summer resort residences; S. K. Titus, Constr. Engr. 1-7

S. C., Greenville—Hall Brothers & Co., capital \$15,000, incorporated; J. B. Hall, 334 W. Earle St.

Tex., Alamo—Rio Grande Valley Sportsman's Club, E. R. Redlich, Pres., plans development club, bowling alleys, golf course, polo fields, etc. See Building News—Buildings Proposed—Misc. Buildings. 7-21

Tex., El Paso—Esperanza Land Co., capital \$50,000, incorporated; G. E. Spinnler, Colbert Caldwell.

Tex., Houston—Main Corp. incorporated; W. Stewart Boyle, First Natl. Bank Bldg.

Tex., Houston—Dancy Properties, Inc., chartered; R. R. Dancy, Jr., Cotton Hill.

Tex., Waco—Oxford Hills, Inc., chartered; J. F. Holly, R. B. Fore.

Va., Culpeper—Virginia Peony Farms, Inc., capital \$25,000, chartered; Charles G. Morris, Rochester, N. Y.

Va., Norfolk—Blackstone Corp., incorporated; H. R. Furr, 127 W. Plume St.

Va., Petersburg—Noremce, Inc., capital \$65,000, incorporated; Charles E. Plummer, Natl. Bank Bldg.

Va., Richmond—Eastern Development and Land Corp., capital \$50,000, incorporated; H. S. Shade, Central Natl. Bank Bldg.

Va., Richmond—Forest Hill Terrace, Inc., capital \$15,000, incorporated; Harvey L. Williams, 4301 Forest Hill Ave.

Va., Roanoke—Windel-Lemon, Inc., chartered; John H. Windel, Colonial Natl. Bank Bldg.

W. Va., Parkersburg—Anderson Realty Co., incorporated; J. R. Anderson, E. J. Braham.

## Lumber Enterprises

N. C., Sylva—Jackson Log and Lumber Co., capital \$50,000, incorporated; J. Tillman Powell, Sylva; F. E. Alley, Jr., Waynesville.

Tex., Big Springs—Stahlman Lumber Co., Inc., Pyote, changed name to Stahlman Lumber Co., changed place of business to Big Springs; increased capital \$30,000 to \$100,000.

W. Va., Richwood—Consolidation of hardwood mill, formerly located at Gauley Mills, with plant of Cherry River Boom & Lumber Co. under way; improvements being made to combined plants.

## Mining

Ark., Little Rock—Ozark Mineral Production Co., Inc., chartered; W. W. Finley, M. H. Gazette, 2807 Marshall St.

Tex., Belton—Belton Sand & Gravel Co., incorporated; Burrell McInerney, Dallas.



Tex., Leakey—Uvalde Asphalt Co., James H. Dulaney, reported, plans mining kaolin from fields 7 miles from here.

Va., Roanoke—Rockydale Quarries Corp., capital \$50,000, incorporated; C. E. Hunter, Mountain Trust Bldg.

### Miscellaneous Construction

Alabama-Louisiana—War Dept., Washington, allotted \$106,000 for river and harbor improvement and flood control; \$56,000, to expedite survey for improvements on Warrior and Tombigbee Rivers, Ala.; \$50,000, levee repairs at Cypremont Crevasse, La.

Ala., Marion—Henry O'Malley, Commr., Bureau of Fisheries, Dept. of Commerce, Washington, D. C., advises site not yet acquired and no appropriation made for fish hatchery, and no plans drawn. 1-7

Ala., Mobile—U. S. Engr. Office let contract to Mott Core Drilling Co., 846 Eighth Ave., Huntington, W. Va., for core drilling for foundation at proposed dam sites. 12-31

D. C., Washington—U. S. Engr. Office, Navy Bldg., has low bid from Smoot Sand & Gravel Corp., 3020 K St., N. W., at \$2.48 per ton, for furnishing and placing 16,000 tons 40% more or less, riprap seawall foundation along Anacostia River, in trenches already excavated; award recommended to low bidder.

Fla., Tampa—Standard Fruit & Steamship Co., E. B. Merden, Ch. Engr., Union Indemnity Bldg., New Orleans, advises not at present contemplating plans in connection with constructing banana unloading and citrus loading dock. 12-17

Fla., Jacksonville—C. O. Graham applied to U. S. Engr. Office, Jacksonville, for War Dept. permit to construct bulkhead and dredge in front of property, Lakeside Park.

Ga., Valdosta—Bureau of Fisheries, Dept. of Commerce, Washington, completed survey for dam across Jumping Gully for impounding water for fish hatchery in Grassy Lake.

Louisiana—War Dept., Washington, allotted \$50,000 for immediate levee repairs at Cypremont.

Miss., Clermont Harbor—Clermont Harbor Civic Association, C. F. Jenkins, Pres., let contract to Garcia & Carr, Bay St. Louis, for creosoted pile public recreational pier. 12-3

N. C., Edenton—Charlotte Marble & Granite Works, Charlotte, has contract for War Dept. monument to Joseph Hewes; Rogers and Poor, Archts., 130 W. 42nd St., New York.

Okla., Bartlesville—H. V. Foster soon call for bids for conc. and terra cotta swimming pool; orna. iron railing and tile walks; Edward Buehler Delk, Archt., Meyer Blvd. and Ward Pkwy; Kansas City, Mo.

Okla., Ponca City—Indian Hills Resort Co., C. McDonald, Pres., construct \$20,000 earthen dam, 300,000 cu. yd. earth excavation; J. W. Atherton, Engr., Ponca City.

Tenn., Nashville—City, Bd. of Park Comms., has permit for \$25,000 swimming pool, Shelby Park; 80x100 ft.; Bush Building Co., Gen. Contr., Eighth Ave., N.; Hart, Roberts & Martin, Archts.; plans another pool, Centennial Park. 12-31

Tex., Galveston—Galveston County, Gus A. Butterow, Commr., erect public fishing pier, Offatts Bayou; fill tract 330x990 ft.

### Miscellaneous Enterprises

Ark., Forrest City—Ramsey's Flowers, 1235 Union St., Memphis, Tenn., reported, acquired 4 greenhouses and plans erecting 2; work to begin in 90 days; Byron Doyle Ramsey in charge; John Haynes Newman, Land Archt., 1625 11th Court, N., Birmingham, Ala.

Ark., Mineral Springs—Mineral Springs Hardware & Furniture Co., capital \$32,000, incorporated; T. J. Dillars, C. L. Milam.

Fla., Clearwater—Clearwater Paint Co., incorporated; H. A. Dann.

Fla., Miami—Broadway Amusements, Inc., chartered; J. R. McDavid, 1110 N. W. First St.

Fla., Okeechobee—Celo Bottling Co. incorporated; H. L. Chandler, R. A. Minsham.

Fla., Tampa—Big Four Cigar Co., chartered; R. Mistretta, 2115 Main St.

Ky., Hopkinsville—Coca Cola Bottling Co., capital \$16,000, incorporated; T. E. Over-shiner, James Breathitt, Jr.

Md., Baltimore—Uptown Theater Co., incorporated; Frank Price, Jr., 4302 Garrison Blvd.

Md., Baltimore—John W. Hood Co., (clothing), incorporated; George W. Lindsay, Baltimore Trust Bldg.

Md., Baltimore—Belair Road Supply Co., Inc., 5502 Belair Rd., incorporated; Hermann J. Hughes, George N. Traves; take over building supply business of G. Edward Markley.

Md., Baltimore—Steiner-Liberty Corp., Jesse S. Fleischer, Treas., formed by merger of Liberty Mfg. Co., 416 Light St., Baltimore, and Steiner & Son, Inc., 200 Fifth Ave., New York, both pajama manufacturers, and will have headquarters here.

Md., Baltimore—G. Alfred Peters Co., Inc., 32 South St., chartered; G. Alfred Peters, Sr., Charles K. Peters; printing.

Md., Baltimore—Southern Couch Mfg. Co., 431 Colvin St., reported, let contract to Abr. Goodman, 2000 Whittier Ave., for improvement plant.

Md., Cumberland—Cumberland Theater Co., incorporated; Thomas H. Burke.

Md., Hagerstown—Johnson Laboratories, Inc., 36 W. Washington St., incorporated; C. Walter Baker, Sec.; acquired plant, including machinery and chemicals of Johnson Chemical Co.

Md., Hyattsville—National Hotel Management Corp., incorporated; T. Howard Duckett, Hyattsville; Jeff L. Ford, Jr., 1156 15th St., N. W., Washington, D. C.

Miss., Natchez—Mississippi Match Co., affiliated with International Match Co., 25 W. 43rd St., New York, reported, soon begin installation of machinery in recently completed plant in Concord Addition on 17 acre tract. 4-23

Miss., New Albany—New Albany Times, newspaper, formed with H. T. Caldwell, publisher, and Potts Boswell, Editor.

Mo., Carthage—J. E. Harmon, 4th and Main Sts., reported, acquired Carthage Bottling Works.

Mo., Caruthersville—Pemisot Coca-Cola Bottling Co., capital \$24,000, incorporated; C. S. McCord, T. J. Medlin.

Mo., Kansas City—Franklin Ice Cream Co., 1217 Harrison St., reported, erecting 3 story addition to plant; expend \$150,000; remodel parts of existing plant; install new equipment; purchase and operate transportation equipment between plant and Tonganoxie, Kan.; leased garage 1215 Charlotte St.; Bessecke & Braecklein & Swanson, Archts., 114 W. 10th St.

Mo., Kansas City—Berkshire Hotel Co., incorporated; W. Clay Woods, Huntzinger Bldg.

Mo., Kansas City—O. D. Woodward Amusement Co. incorporated; O. D. Woodward, Clinton Tutsin.

Mo., Kansas City—Topax Amusement Co. incorporated; M. E. Walker, 418 E. 9th St.

Mo., Sedalia—Crocker-Wallace Packing Co., reported, completed plans for packing plant and stockyard, northwest city; present industrial building will be used for hog and cattle barn; erect loading and unloading docks, roadway, etc. 12-24

Mo., Sedalia—C. I. Stafford & Sons, Springfield, reported, construct Sedalia Livestock Concentration Yards southwest of city.

Mo., St. Louis—Chapman Ice Cream Co., capital \$100,000, incorporated; Edw. B. Huelsmann, 4968 Winona St.

Mo., St. Louis—Roof Structures, Inc., chartered; E. L. Mayer, 3606 Gravois St.

Mo., St. Louis—Mortimer W. Mears, Inc., chartered; Mortimer W. Mears, 467 Ridge St., Webster Groves, St. Louis; advertising.

Mo., St. Louis—Liggett & Myers Tobacco Co., 4000 Folsom St., reported, expend \$20,000 altering 1-story storage building at 3932 Park St.; James Black Masonry & Contg. Co., Bldr., 801 Louderman Bldg.

Mo., St. Louis—A. & J. Mfg. Co. incorporated; Lester P. Ackerman, 7246 Wydown St.; manufacture dresses.

N. C., Roanoke Rapids—Roanoke Theatre, Inc., capital \$50,000, chartered; F. L. Nash, D. L. Trayham, Jr.

N. C., Winston-Salem—Ocracoke Transportation Co. incorporated; W. G. Willis, Ocracoke; operate boat line.

N. C., Winston-Salem—Col. G. E. Webb, Editor, Southern Tobacco Journal, reported, formed company to take over publication of paper; has leased offices in plant of Penny-Aitchison Printing Co., W. 5th St.; Col. Webb will be president of new company; Harry F. Aitchison, Sec.

Okla., Blackwell—H. A. Shellenberger, Muskogee, president local cheese company, reported, plans enlarging plant cor. 4th St. and W. Dewey Ave.; install additional machinery.

Okla., Tulsa—City, reported, let contract to Gamewell Co., Newton Upper Falls, Mass., at \$101,689, for furnishing and installing fire

alarm equipment; Dodge Electric Co., 318 S. Boulder St., Tulsa, at \$42,095, to furnish and install underground conduit. 1-7

S. C., Greenville—Liberty Life Insurance Co., W. Frank Hipp, Pres., Blue Bldg., reported, acquired interest in Southeastern Life Insurance Co., Southeastern Bldg.

Tenn., Clarksville—C. H. Williams and W. B. Harlin, representing Central Mfg. Co., reported, establish shirt factory in building Public Square and Legion St.

Tenn., Martin—Salant & Salant, Inc., 56 Worth St., New York, reported, has plans under way for improvements to plant, erect 2½ story basement building; 60x85 ft.; double present capacity shirt factory. 10-29

Tenn., McMinnville—W. H. Fry, reported, establish shirt plant in former building of Fly Overall Co., Main St.; will be known as Southern Shirt Co.

Tenn., Memphis—Bailey Body & Repair Co. incorporated; Malcolm Bailey, 1534 Ely St.

Tex., Austin—Walkers' Austex Chile Co. incorporated; Fred W. Catterall, H. A. Wroe.

Tex., Dallas—Darling Dress Mfg. Co., 208 S. Lamar St., increased capital to \$35,000.

Tex., Dallas—The Macmillan Co. (Publishers), Ross Ave. and Akard St., advise remodeling present building; plans for exterior approved, inside layout not decided upon; Bryan & Sharp, Archts., Construction Bldg.; Cedric Burgher Construction Co., 3027 Main St., Contr. 1-7

Tex., Dallas—Merger, reported, of Best Foods, Inc., a division of Gold Dust Corp., and Richard Hellman, Inc., division of General Foods Corp.; new company will be known as Best Foods, Inc.; companies have plants Bayonne, N. J., Chicago, Ill., Norfolk, Va., Miami, Fla., and Dallas, Tex.

Tex., Fort Worth—Kimbell Elevators Co., capital \$25,000, incorporated; K. K. Smith, 2100 S. Main St.; maintain elevators, mills, etc.

Tex., Fort Worth—Jay Willis Construction Co. incorporated; Jay F. Willis, 101 S. Calhoun St.

Tex., Glenrose—Snyder Sanitarium, Inc., capital \$25,000, incorporated; George P. Snyder, Ruby Karr.

Tex., Houston—Harwood Construction Co., incorporated; D. M. Harwood, 501 N. Super St.

Tex., Houston—Bastrop Shares Development Co., incorporated; J. H. Snell, Chronicle Bldg.

Tex., McAllen—McAllen Building Co. incorporated; M. R. Nelson, George E. Ely.

Tex., San Antonio—Ashby Industries, Inc., chartered; R. M. Parker, Callaghan Rd.; building.

Tex., Waco—R. B. Dupree, 401 Mt. Look-out Dr., reported, acquired Waco Twine Mill.

Va., Alexandria—Victor C. Donaldson Corp., capital \$20,000, incorporated; Victor C. Donaldson; exporting.

Va., Bristol—Nehi Bottling Co. incorporated; M. D. Kelly, Pennington Gap.

Va., Fredericksburg—Sylvania Industrial Corp., Dr. Frank H. Reichel, V. Pres., Fredericksburg, and 122 E. 42nd St., New York, reported, let contract to Doyle & Russell, Central Natl. Bank Bldg., Richmond, for erection of addition to present transparent paper mfg. plant. 7-2

Va., Lynchburg—Hughes Dry Cleaning Corp., capital \$30,000, incorporated; Thomas M. Hughes, 1607 Park Ave.

Va., Richmond—Singer Sewing Machine Co., Grace American Bldg., reported, leased building, 422 E. Grace St.; will alter and occupy.

W. Va., Charleston—Big Jack Overall Co., Bristol, Va., reported, acquired plant of Big Ace Overall Mfg. Co.

W. Va., Clarksburg—Clarksburg Coca Cola Bottling Co., capital \$100,000, incorporated; Thomas E. Lee, Edw. Lee.

W. Va., Huntington—Applegate Machine Co., Inc., incorporated; Clark Applegate, 908 3rd Ave.

### Motor Bus Lines and Terminals

Fla., Jacksonville—Carolina Short Line, Inc., chartered; N. B. Estes, 3420 St. John Ave.

Fla., Pensacola—City, George J. Roark, City Mgr., reported, receives bids Jan. 14 on 5 yr. franchise for operating passenger buses over city streets.

N. C., Goldsboro—Liberty Motor Express, Inc., capital \$50,000, incorporated; W. B. Smith, A. H. Daniels.

S. C., Charleston—John P. Nutt Co., incorporated; John P. Nutt, Henry L. Calder.

Va., Norfolk—Seaboard Bus Lines, Inc., chartered; William Nevin, 203 W. 33rd St., New York City.

Va., Richmond—Peninsula Transit Corp., 412 E. Broad St., reported, acquired certificate to operate passenger service line between Warsaw and Reedville.

### Railways

Tenn., Chattanooga—Tennessee, Alabama & Georgia Ry., G. H. Burgess, Pres., Chattanooga, complete \$400,000 construction and maintenance program in 1932.

Va., Norfolk—Seaboard Air Line Ry., W. M. Portlock, Pur. Agt., ordered 2800 tons steel tie plates from Tennessee Coal, Iron & Railroad Co., Birmingham.

### Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

#### Proposed Construction

Ala., Montgomery—City, W. L. Jackson, Clk., postponed paving 6 blocks with sheet asphalt. 12-31

Ga., Atlanta—C. E. Kauffman, Engineer of Bridges and Estimates, Dept. of Construction, recommended building new bridges and widening and extension of streets at cost of \$1,623,121.

La., Baton Rouge—State Highway Comsn., O. K. Allen, Chmn., opens bids Jan. 26 for washed and screened gravel, 40% sand-clay gravel, reef shell, clam shell, crushed lime stone, slag and sand, as required by maintenance department during February.

La., New Orleans—City Comsn. Council has low bid from Craven & Lang, American Bank Bldg., for improving Paris Ave., at \$3.50 for slag, and \$7.70 for blinder.

La., Tallulah—Madison Parish Police Jury, P. O. Benjamin, Engr. in charge of roads, has low bid from Cooper & Campbell, Hattiesburg, Miss., for change in airport road; material to be furnished by parish. 12-24

Md., Cumberland—State Roads Comsn., L. H. Steuart, Sec., Baltimore, plans relocating National Highway through Cumberland, opening Front St. to Knox, and highway bridge over Baltimore & Ohio tracks, Franklin St. to connect N. Mechanic St.

Mississippi—State Highway Comsn., C. M. Williamson, Dir., Jackson, opens bids Jan. 26 for 3.781 mi. paving, U. S. 11, between Meridian and Livingston, Ala.

Mo., Clayton, St. Louis—St. Louis County, Roy Jablonsky, County Engr., takes bids soon for 1500 ft. rein. conc. paving, Hildesheim Ave.

N. C., Charlotte—City, J. B. Pridgen, City Mgr., has low bid from Blythe Bros. Co., Inc., Brevard Court, for paving in connection with \$300,000 improvement program. 12-31

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, has apparent low bid from Kedane Construction Co., Frederick, at \$16,749, for 8.5 mi. grading, draining, State Highway 62, Harmon County.

OKLAHOMA—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, opens bids Jan. 19 for guard rail and 3 bridges in following counties:

Carter-Grady-Stephens-Hughes-Jefferson—29,539 lin. ft. guard rail, complete in place. FAP R-39-D; 162-B; 187-D; 189-A; 202-A and 244-D-E;

Woods—3 bridges, State Highway 14, between Hopeton and Waynoka, all 22-ft. roadway, one being 3 36-ft. I-beam span, one 3 30-ft. I-beam span, other 3 22-ft. 6-in. conc. piling, 2850 cu. yd. excavation, FAP 264-F.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, opens bids Jan. 18 for 8 roads in following counties:

Freestone—4.621 mi. grading, draining, Leon County line northeast to connection with Highway 7, 71,276 cu. yd. excavation, 106 hours blading embankments, 3028 M. gal. jetting and ponding, 61,944 lb. rein. steel (structures), FAP 453-B, Highway 43;

Pecos—9.999 mi. grading, draining, Sheff-eld to 10 mi. west, 131,489 cu. yd. excavation, 507 hours blading embankment, 5029 cu. yd. borrow, 1155.81 cu. yd. "A" conc. for culverts, 125,532 lb. rein. steel, 923 cu. yd. backfill embankment, FAP 618-F, Highway 27;

DeWitt—11.367 mi. 1-in. two course lime-Road, Dist. 7, through Yorktown to Smith stone rock asphalt surface course, east line Creek, 123,828.5 sq. yd. 1-in. two course limestone rock asphalt surface course, SP 735-B&D, Unit 3, Highway 72;

Jim Wells—21.272 mi. caliche base courses, Like Oak County line to Alice, 16,537 cu. yd. stripping material pits, 384,046.52 sq. yd. fine grading, subgrade and shoulders, 3634.34 M. gal. sprinkling, rolling subgrade and base course, 2123 hours extra rolling subgrade and base courses, 116,778 cu. yd. caliche base course, SAP 931-F, Unit 2, Highway 66;

Austin—12.682 mi. grading, draining, 6 mi. south of Sealy to 6 mi. north of Sealy, 151,965 cu. yd. excavation, 89 hours blading embankment, 1121 M. gal. jetting and ponding, 69,282 lb. rein. steel (structures), 1228 pipe, SAP 531-B, Highway 38;

Calhoun-Jackson—18.158 mi. jetting and pending embankment, between Port Lavaca through Jackson County and to Matagorda County line, 5200 cu. yd. common roadway excavation, 3168 M. gal. jetting and ponding, SAP 807-F&969-A&B;

Real—7.046 mi. grading, draining, Uvalde County line north to Leakey, 72,180 cu. yd. excavation, 2297 cu. yd. borrow, 60,191 lb. rein. steel (structures), SAP 986-C, Highway 4;

Concho—16.907 mi. grading, draining, caliche base with triple bitum. surface treatment, 101,240 cu. yd. excavation, 862 M. gal. jetting and ponding, 180 hours rolling embankment, 14,480 cu. yd. stripping material pits, 336,815.8 sq. yd. fine grading, subgrade and shoulders, 3104.1 hours extra rolling subgrade and base courses, 86,415.37 cu. yd. caliche base courses, 11,573.32 cu. yd. aggregate for surface treatment, 219,529.54 gal. asphalt, 3870 lin. ft. wire mesh guard fence, FAP 626-A&B, Highway 9. 1-7

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, opens bids Jan. 19 for 7 roads and 2 bridge projects in following counties:

Hall—14.654 mi. caliche base course, Turkey northeast to Road Dist. No. 4 line, 2118.8 M. gal. jetting and ponding, 17,540 cu. yd. stripping material pits, 260,560 sq. yd. fine grading, subgrade and shoulders, 1307 hours extra rolling subgrade and base courses, 65,132 cu. yd. caliche base course, 8690 lin. ft. wire cable guard fence, Type A, FAP 602-A, Unit 2, Highway 18;

Brazos—2.840 mi. grading, draining, Burleson County line to 2.840 mi. northeast of Brazos River, 335,394 cu. yd. excavation, 6395 M. gal. jetting and ponding, 81,452 cu. yd. borrow, 6985 lb. rein. steel (structures), 563.50 cu. yd. grouted rip rap, FAP 620-C, Highway 21;

Pecos—10.999 mi. grading, draining, 50 mi. east of Ft. Stockton to 10 mi. west of Sheffield, 143,659 cu. yd. excavation, 127 hours blading embankment, 17,216 cu. yd. borrow, 1383 cu. yd. backfill embankment, 1484.30 cu. yd. Class A conc. for culverts, 191,623 lb. rein. steel, FAP 618-E, Highway 27;

San Patricio—11.434 mi. grading, draining, Nueces River bridge near Callallen north-west 11.434 mi., 98,545 cu. yd. excavation, 6395 M. gal. jetting and ponding, 81,452 cu. yd. borrow, 605.35 cu. yd. class A conc., 80,747 lb. rein. steel (structures), SAP 886-F, Highway 9;

Upton—10.507 mi. caliche base course with triple asphalt surface treatment, Rankin to Ragan County line, 2100 cu. yd. excavation, 184,869 sq. yd. grading, subgrade and shoulders, 1109 hours extra rolling subgrade, base and surface courses, 24,972.55 cu. yd. caliche base course, 24,972.55 cu. yd. caliche surface course, 122,547 gal. asphalt, 6432.77 cu. yd. aggregate for surface course, 2390 lin. ft. wire mesh guard fence, SP 903-H&I, Unit 2;

Haskell—9.971 mi. grading, draining, intersection Highway 18 to Rule, 63,548 cu. yd. excavation, 200 hours disc harrowing embankment, 84,299 lb. rein. steel (structures), SAP 959-D, Highway 51;

DeWitt—7.041 mi. caliche base courses, Yorktown to Goliad County, 600 M. gal. jetting and ponding \$200 cu. yd. stripping material pits, 115,066 sq. yd. fine grade, subgrade and shoulders, 386 hours extra rolling subgrade and base courses, 32,716 cu. yd. caliche base course, SAP 835-B&C, Unit 2, Highway 119;

Guadalupe—0.456 mi. Guadalupe River bridges, steel cylinder type conc. bents and abutments and roadway approaches, 4504 cu. yd. excavation, 37,053 cu. yd. borrow, 1610.90 cu. yd. class "A" conc., 486,800 lb. struc. steel (I-beam spans), 247,000 lb. struc. steel (truss spans), 167,241 lb. struc. steel (piers and bents), 1454 lin. ft. conc. railing (low type), FAP 633-C, Highway A-A;

Gonzales—334.5 ft. conc. deck girder spans, roadway precast conc. piling type substructure, and widening 2 conc. slab bridges, Sandy Fork Creek Bottom between Waelder and Gonzales, 551.69 cu. yd. class "A" conc., 99,700 lb. rein. steel, 1300 lin. ft. 15-in. square precast conc. piling, SAP 71 Reop., Highway No. 3. 1-7

Tex., Houston—City, J. M. Nagle, City Engr., call for bids for drainage work ahead of paving, Alameda road; drainage, \$13,000.

Tex., Austin—State Highway Dept., Gibb Gilchrist, Highway Engr., Austin, reported, plans \$1,000,000 bond maintenance program in addition to road and bridge projects to cost \$1,500,000, soon to be placed under contract.

Tex., Galveston—Galveston County, I. Predecki, County Aud., opens bids Jan. 19 for surfacing entire brick pavement of Seawall Blvd., 18th to 39th St. 1-7

VIRGINIA—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, has low bids for 3 roads and bridge in following counties:

Amherst—3.299 mi. grading, draining, Route 13, F555CB1, James Cain & Co., Elkins, W. Va., \$94,268;

Appomattox—bridge over Bent Creek, Route 307, F658B6, Alley Construction Co., Bristol, Va., \$6308;

Henrico-Goochland—4.81 mi. soil or gravel, Alt. 1, course macad., Route 19, S719DB2, Jamison Bros., Inc., Cotton States Bldg., Nashville, Tenn., gravel, \$36,296; Nello L. Teer, Amherst, madam, \$66,553;

Rockingham—3.838 mi. gravel, Alt. 1 course macad., Route 815, S740AB1, Robt. G. Lassiter & Co., Natl. Bank of Comm. Bldg., Norfolk, Va., gravel, \$21,447; Hall & Mitchell, Keswick, macad., \$45,400;

#### Contracts Awarded

Ala., Montgomery—City, W. L. Jackson, Clk., let contract to Hodgson & Jones for paving Buford St. 12-31

GEORGIA—State Highway Bd., J. W. Barnett, Chmn., Atlanta, let contracts for 3 roads in following counties:

Glynn—2.77 mi. reconstructed paving, Coastal Highway, South Brunswick River and Little Satilla River, Proj. 432-C, John E. Ballenger Construction Co., Lakeland, Fla., \$19,524;

Green—11.041 mi. grading, Madison-Greensboro road, 179-B, L. D. Law Construction Co., Gainesville, Ga., \$52,528;

Taylor—3.273 mi. grading, Ellaville-Butler road, 393-E, L. D. Law Construction Co., \$13,896. 12-31

La., New Orleans—City Council let contracts for streets in third 1931 paving program; L. B. Buja, 1431 Leda St., curbing, paving, Conti St., \$8790; sidewalks, Solomon St., \$1630; Uvalde Rock Asphalt Co., 3905 Gravoire St., curbing, paving, Fairmont Dr., \$21,660; paving, Reynes St., \$18,020; N. Robertson St., \$28,700; St. Roch Ave., \$83,530; Craven & Lang, New Orleans Bank Bldg., paving, Solomon St., \$13,590; Saratoga St., \$9810; Music St., \$36,240; St. Claude Ave., \$20,930; Painters St., \$36,710; Arts St., \$36,450; Henry Clay Ave., 3 projects, \$12,200, \$10,770, \$13,560; General Taylor St., \$47,300; Druex Ave., \$16,430; H. A. Forrest, 6319 Catina St., sidewalks, General Taylor St., \$7110; Louisiana Construction Co., New Orleans, improving Henry Clay Ave., \$4370; Reynes St., \$10,560; M. J. Flynn, New Orleans, N. Robertson St., \$5230; General Taylor St., \$22,960; Druex Ave., \$9580; Conti St., \$1040; sidewalks on 13 streets, \$52,960; J. B. Mooney, Alvar St., \$14,600; Painters St., \$14,810; St. Roch Ave., \$15,050; A. P. Boh & Co., 837 Perdido St., Fairmont Dr., \$18,770; Henry Clay St., \$4830; Lizard St., \$9840; Solomon St., \$641,560; rejected bids for subsurface drains, sidewalks, conc. and vitrified brick, 358 ft. Bienville St., 651 ft. Apricot St., 300 ft. Arabella St. 12-10

Miss., Jackson—State Highway Comsn., C. M. Williamson, Dir., let following additional contracts for supplies and maintenance work for next 6 months: Sand and gravel, W. W. Dills; Pearl River Gravel Co., Tower Bldg.; Gatesville Gravel Co., Millsaps Bldg.; all Jackson; Lutesville Gravel Co., Miles; Moore Construction Co., Liberty; American Sand & Gravel Co.; Concrete Gravel Co.; Forrest County Gravel Co., all Hattiesburg; Memphis Stone & Gravel Co., Exch. Bldg.; Greenville Sand & Gravel Co., 269 Walnut St.; Central Sand & Gravel Co., all Memphis, Tenn.; New Hope Gravel Co.; Waters & McCrary Gravel Co.; Southern Sand & Gravel Co.; Columbus Gravel Co., all Columbus; Allen Gravel Co., Iuka; Crystal Springs Gravel Co.; Richton Investment Co., Richton; Weston Sand & Gravel Co., Logtown; Brookhaven Gravel Co., Brookhaven; Mississippi Sand & Gravel Co., Kelola Springs; Amory Concrete Gravel Co., Amory; signs, Lyle Signs, Inc., Minneapolis, Minn.; National Colortype Co., Bellevue, Ky.; Robinson Bros., Centerville, Miss.; paints, American Pine Chemical Co., New Augusta, Miss.; automobile, Doty-Benner Motor Co., Tupelo; road oils, asphalt, etc., Emulsified Asphalt Sales Co., Little Rock, Ark.; Southern Paving & Material Co.; Southern Emulsified Asphalt Co.; Mississippi Road Materials Co., all Jackson; Shell Petroleum Corp., Shell Bldg., St. Louis; Koppers Products Co., Woodward, Ala.; Mexican Petroleum Corp. of Louisiana, Destrahan, La.; Lion Oil Refining Co., El Dorado, Ark.; Standard Oil

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Co. of Louisiana, 2434 St. Charles Ave., New Orleans, La.; Texas Co., New York; Bar Co., Indianapolis, Ind.; surface treatment retort Co., Fairfield, Ala.; Republic Creosoting aggregate, Greenville Sand & Gravel Co.; Central Sand & Gravel Co.; Gager Lime Mfg. Co., Sherwood, Tenn.; Franklin Lime-stone Co., 612 10th Ave., N., Nashville, Tenn.; Woodstock Slag Co., 2201 First Ave., N.; Birmingham Slag Co., Comer Bldg., both Birmingham Ala.; Columbus Gravel Co.; Southern Sand & Gravel Co.; Lutesville Sand & Gravel Co.; American Sand & Gravel Co.; Concrete Gravel Co., Hattiesburg; Forrest County Gravel Co.; Roquemore Gravel Co., First Natl. Bank Bldg., Montgomery, Ala.; Brookhaven Gravel Co.; W. W. Dills; Waters & McCrary Gravel Co.; Amory Sand & Gravel Co.; tires and tubes, B. F. Goodrich Lumber Co., 208 S. Peters St., New Orleans, La.; Louisiana Oil Corp., 131 S. Lamar St., Jackson, Miss. 1-7

Okla., Oklahoma City—City, M. Peshek, City Clk., let contract to O. H. Holland, Seminole, for paving W. 24th St.

Tex., Dallas—City, O. H. Koch, Dir. of Public Works, let contract to H. L. Canady & Co., Construction Bldg., at \$30,260, for 2½-in. fibre brick on 6-in. conc., Lamar St. Tex., Jasper—City, A. L. Black, Mayor, let contract to Reed & Wheelock, Waco, for over 2 mi. paving, at \$45,233. 12-10

## Sewer Construction

**Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.**

Ala., Bessemer—Jefferson County Bd. of Commrs., Birmingham, C. J. Roger, Engr., Birmingham, reported, have plans and specifications ready for bids Jan. 15 for construction sewage disposal plant; work includes 2 brick buildings, 1 story, 20x40 ft.; rein. conc. sludge digestion tanks; 1 acre drying board, etc.; cost \$225,000. 9-22

Ark., Pine Bluff—City, Harry I. Holder, Mayor, plans voting on \$125,000 sewer bonds; Chris. Wright, City Engr.

Md., Baltimore—Marocco Construction Co., 281 S. Exeter St., reported, has contract for sewers, Sanitary Contr. 281. 1-7

Md., Baltimore—Baltimore Steel Co., 1400 Eastern Ave., reported, has contract for steel and iron for superstructure of mechanical screen building, Back River; Wm. F. Ward Plumbing Co., 20 W. Pratt St., for heating and plumbing; Fenestra Steel Window Co., 39 S. Charles St., for steel sash; David M. Andrew & Co., Sisson & 26th Sts., Gen. Contr.; Sanitary Contr. No. 277. 12-31

Okla., Oklahoma City—Koller Construction Co., Trades Natl. Bank Bldg., Oklahoma City, reported, low bidder for sanitary lateral sewers in Crown Heights Addition.

Va., Richmond—City, H. Keith Compton, Director of Public Works, reported, expend \$400,000 for sewer construction in 1932; work includes Bacon's Quarter branch sewer, Cary St. relief sewer; Floyd Ave. relief sewer, etc. 1-7

## Telephone and Radio

Fla., St. Petersburg—U. S. Coast Guard, LeRoy Reinburg, Commanding Base 21, reported, plans improvements to radio station; building addition, etc.; work under supervision of Lieut. E. C. Whitfield and N. W. Griffith.

Mo., Kansas City—Kansas City Airport, through Aeronautical Radio, Inc., granted permission by Federal Radio Comsn. for construction low power transmitter for directing incoming aircraft of transport lines; Roy C. Farrell, Airport Mgr.

Tenn., Nashville—National Life & Accident Insurance Co., Edwin W. Craig, V-Pres., in charge of radio, start construction within 2 weeks on 50,000-watt plant for Station WSM.

## Textile

North Carolina—Adams-Millis Corp., High Point, and McCrary Hosiery Mills, Inc., Asheville, reported, acquired plant of Signature Hosiery Co., Frankfort, Philadelphia, Pa., including 100 machines for manufacture full fashioned hosiery; will move equipment to High Point and Asheville.

N. C., Columbus—Katterman-Mitchell Co., Stanley, N. C., and Paterson, N. J., reported, move silk mill from Pennsylvania to Columbus; local subscription \$5000; plant will be located in former building of Columbus Mills,

Inc.; survey of mill property being made by G. H. Hacker, Gen. Mgr.; present plans are for silk throwing plant; later will probably install machinery for weaving silk yard goods.

N. C., Fayetteville—Cape Fear Mfg. Co., recently organized by Spurgeon Kinslaw and associates, reported, acquired Fayetteville plant of Cape Fear Cotton Mills, main office St. Paul, N. C.

N. C., Winston-Salem—Carolina Narrow Fabric Co., 2721 Woughtown St., reported, install additional machinery; increase output 50%; manufactures approximately 1,000,000 yds. fabric weekly.

## Water Works

**Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that Classification.**

D. C., Washington—See Want Section—Bids Asked.

Fla., Pahokee—Pahokee Water Co., Inc., chartered; L. I. Maloy.

Ga., Macon—City, Bd. of Water Commrs., Cliff T. Williamson, Chmn., let contract to Burford, Hall & Smith, Red Rock Bldg., Atlanta, at \$27,790, for installing pumps and stokers at pumping station. 12-3

La., Morgan City—City, reported, have plans completed in Feb. by Swanson-McGraw, Inc., Balter Bldg., New Orleans, for water works and power plant; includes two 400 kw. oil engine generating units; switchboard; motor driven pumps; 12,000 gal. oil storage tanks; building; machinery foundations; electric transmission system, including all materials and labor; 10-in. Class B c. i. pipe; hydrants, valves, etc.

Md., Pikesville, Baltimore—City, Bureau of Water Works receives bids Jan. 20 for pumping station equipment. 12-24

Mo., Carthage—City, reported, plans improvement program, including laying main E. Central Ave., etc.

Mo., St. Clair—Common Council, reported, plans installing electric operated pumping machinery and auxiliary equipment in connection with water works extension and improvements; W. A. Fuller Co., 2619 Shenandoah Ave., St. Louis, Const. Engrs.

Okla., Durant—City, D. C. Hatheox, Mayor, reported, repair and equip water works pump and power station; cost \$12,500. 12-24

Okla., Oklahoma City—City, M. Peshek, Clk., reported, votes soon on \$600,000 bonds for water main extension; L. M. Bush, Engr.

Tenn., Memphis—S. & W. Construction Co., Shrine Bldg., contractor for superstructure Cont. No. 7, Sheahan Pumping Station, advises superstructure for this plant not completed at the present time; will begin work on superstructure of main pumping plant building as soon as work on pumping plant foundation is completed, which will probably be about Feb. 1; superstructures on aerator building, iron removal building, located over one of the underground reservoirs, will be built according to schedule, as the substructure work is completed; all work on Contr. No. 7, including all machinery contracts, will be completed this year; entire work involved in expenditure on part of city, \$2,000,000; all materials for all contracts purchased; all of company's sub-contracts let. 10-8

Tex., West University Place, Houston—City, H. B. Schlesinger, Mayor, 3800 University Blvd., Houston, votes during next 90 days on water tower bonds; J. H. Rafferty, City Engr., Marine Bank Bldg., Houston.

Va., Madison Heights—W. E. Sandige, Clk., Circuit Court of Amherst County, Amherst, advises establishment of water system for Madison Heights, Amherst County, is in initial stage. 12-17

Va., Suffolk—City, Water Dept., reported, let contract for electrical equipment to replace steam powered equipment at main water works pumping station; Virginia Electric & Power Co., Richmond, installing 2 power lines to pumping station; cost of entire project \$50,000. 9-3

## Woodworking Plants

N. C., Mount Airy—Mount Airy Mantel & Table Co., improving plant; modernizing 2 kilns and constructing dry kiln, manufactured by Moore Dry Kiln Co., Jacksonville, Fla.

N. C., Roaring River—C. J. Lambeth, reported, negotiating for Roaring River Furniture Co.; will operate.

S. C., Spartanburg—Herring Furniture Co., capital \$20,000, incorporated; H. H. Herring, Orin L. Herring.

Tex., Waco—Waco Box Co., reported, erecting \$100,000 factory and warehouse; manufactures standard egg crates; operates plant at Paris, Tex., under name Box Co. of Paris.

## FIRE DAMAGE

Ala., Opelika—J. H. Floyd's mule barn, Belt Rd., 1½ miles from Opelika.

Ala., Tuscaloosa—Pi Kappa Phi Fraternity house, University of Alabama; loss \$8000.

Ark., Osceola—Plantation, gin, grist mill and seed house of F. P. Jacobs at Grider and warehouse of D. M. Moore Wholesale Grocery Co.; loss \$25,000.

Ark., Paris—Paris Hardware Co.'s bldg.; loss \$10,000.

Fla., Haines City—Armory of 106th Engineers, Florida National Guard; loss \$15,000.

Ky., Bardstown—Garage, N. Side of Arch St., owned by Wilson Bros., operated by A. C. and Frank B. Wilson; loss \$15,000.

Ky., Harlan—Crech Hotel; loss \$5000.

Ky., Irvine—Presley Palmer's dwelling, occupied by Roy Cooper.

La., Alexandria—Alderson & Butters' grocery, E. W. Mizell Service Station and residence, Johnson Barber Shop, Kenneth Morrison's cafe, Swift Sansing Co.'s store; loss \$25,000.

La., Baton Rouge—Store of Baron the Clothier, Main and Third Sts.; Benj. R. Baron, Mgr., 140 E. Boulevard; loss \$7000 to \$8000.

La., Leesville—Three dry sheds of Weber-King Lumber Co.; loss \$80,000.

Md., Hagerstown—M. M. Johnson's residence, Spruce St.

N. C., Burlington—J. D. and L. B. Whit-ted's store; loss \$60,000.

N. C., Burlington—Brice Hall's barn, Rauhut St.

N. C., Dendell—Alonza Richardson's residence.

N. C., Elkin—Building of Greenwood Auto Co. on E. Main St.; loss \$40,000.

N. C., Mount Tabor—Warehouse of Harry B. Wells and J. L. McLean, both Asheville; loss \$40,000.

N. C., New Bern—Bldg. occupied by Shaw Drug Co., Wooten-Moulton photographic studio, etc.; loss \$50,000.

N. C., Yanceyville—Building occupied by Chester Chevrolet Corp. and T. S. Lee Co.'s garage.

Okla., Picher—Theurer Mill No. 2, 1 mile east of Cardin, owned by Charles Theurer Milling Co.; loss \$25,000.

S. C., Elloroe—Arthur Hardware Co.; W. G. Nelson Co.'s livery; loss \$10,500.

S. C., Mullins—Carolina Theater, F. W. Smith, Mgr.

Tenn., Lexington—Mrs. T. A. Lancaster's residence, Church St.; loss \$8000.

Tex., Aransas Pass—Packing shed owned by W. L. Tedford; loss \$10,000.

Tex., Dallas—Warehouse of Leigh Banana Case Co., 3301 Oak Lane at Trunk St., S. Dallas.

Tex., Dallas—Love Field Potteries plant; loss \$20,000.

Tex., Dallas—W. F. Kirby's residence, 218 S. Windemere Ave., Oak Cliff; loss \$7500.

Tex., Denton—Elevator of Cole Mill; loss \$15,000.

Tex., El Paso—Lone Star Furniture Co.'s bldg., 601-07 E. San Antonio St.; owned by E. L. Wiser, 2112 Portland Ave.

Tex., Houston—Kost Furniture Co.'s Store No. 2, 2204 Washington Ave.; loss about \$35,000.

Tex., Huntington—General Store of R. S. Byrd & Son; loss \$20,000.

Tex., Norton—Post Office, address The Postmaster, 3 stores, garage, blacksmith shop, etc.; loss \$15,000 to \$20,000.

Tex., Orange—Thompson Bldg., occupied in part by Rheinstein Dry Goods Store; Lauren Bldg.; Goldfine's, Inc., dry goods store, an others; loss \$75,000.

Tex., Paris—Grocery of Will Abshire & Son, S. Church St.

Tex., Port Arthur—Port Arthur Country Club, W. L. Wignall, Pres.; loss \$15,000.

Tex., Port Arthur—Nacol Filling Station; loss \$8000; Nick Grazzaffi's Grocery and Meat Market; loss \$4500.



Tex., Timpson—Bldg. owned by M. O. McDowell, Timpson, and Mrs. M. H. E. White-side, Houston.

Va., Brightwood—Chair factory of Weaver & Tanner.

Va., Clarendon—Storerooms of George A. Leissler's Nurseries, Lee Highway near Lee-way; loss \$10,000.

Va., Danville—Swicewood's Funeral Home; Chester Chevrolet Corp.; T. S. Lee Co.'s garage; total loss \$20,000.

Va., Elk Creek—Elk Creek Methodist Church, Rev. W. T. Moore, Pastor; loss \$25,000.

Va., Richmond—Warehouse, 706 E. Leigh St., owned by Blair's Drug Store, Inc., 829 E. Broad St.; loss \$8,000.

Va., Richmond—Hotel Kingsland, Richmond-Petersburg Turnpike near Kingsland Creek, 5 miles from Richmond; loss \$20,000.

Va., Winchester—Tenant house on farm of Mrs. John M. Silver; loss \$6,000.

Va., Whittemell—Pritchett's Store, C. A. Pritchett, Mgr.; loss \$8,000.

W. Va., Delbarton—Hatfield Sundry & Drug Store, Britt's hardware store, Hudson B. Arrows' fruit and confectionery store, J. J. Wallace's grocery, L. G. Grace's general store, W. A. Taylor's dry goods store; loss \$50,000.

W. Va., Moundsville—Moundsville Country Club; loss \$10,000.

W. Va., Wheeling—B. C. Stolze's residence, Ohio and S. Front Sts.; loss \$20,000.

Archts., 1621 Connecticut Ave.; Alex. B. Trowbridge, Consit. Archt., 1028 Connecticut Ave. 1-7

D. C., Washington—Dist. Commrs., Dist. Bldg., have low bid at \$21,242 from Industrial Engineering & Construction Co., 1909 Minnesota Ave., S. E., for repair shop extension and alterations. 12-31

Fla., Jacksonville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, approved tentative plans for \$1,500,000 post office and court house; 242,130 sq. ft., 3,500,000 cu. ft., fireproof, 4 passenger and several service elevators; Marsh & Saxelby, Archts., Consolidated Bldg., Jacksonville. 9-3

Fla., Miami—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, reported, rejected bids for \$65,000 quarantine station, Fishers Island; probably call new bids. 12-17

Fla., St. Petersburg—Veterans Administration, Arlington Bldg., Washington, has low bids as follows for Veterans Administration Home: General—James I. Barnes, Logansport, Ind., at \$659,000; Plumbing, heating and elec. work—J. J. Nolan & Co., 235 Court St., Memphis, Tenn., at \$201,232; Elec. elevators—Otis Elevator Co., 810 18th St., N. W., Washington, at \$19,296; Steel water tank and tower, R. D. Cole Manufacturing Co., Newnan, Ga., at \$6368; Sewage treatment works—Rice Plumbing & Heating Co., Florence, S. C., at \$34,926 with Item 2 (p. h. and elec.); second low bid at \$40,888 from Worsham Bros., Med. Arts Bldg., Knoxville, Tenn.; Refrigerating and ice-making plants, Pennsylvania Engineering Co., 1119 N. Howard St., Philadelphia, Pa., at \$14,900; General constr., Item B—Henry B. Ryan Co., 510 N. Dearborn St., Chicago, Ill., at \$69,000. 12-31

Ga., Fort Benning—Contracting Officer, Q. M. Corps, opens bids Jan. 25 for alterations to theater.

Ky., Harrodsburg—War Dept., Washington, Major Geo. Spann, Quartermaster Depot, Jeffersonville, Ind., supervising, erect \$100,000 memorial to first settlement west of Alleghenies and monument to George Rogers Clark; Francis Keally, Archt., 101 Park Ave.; Ulric H. Ellerhusen, Sculptor, 16 E. 23rd St., both New York.

La., Alexandria—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, approved preliminary plans for \$275,000 post office and court house, Fifth St. near Johnson St.; Edw. F. Neild, Archt., City Bank Bldg., Shreveport. 9-24

Mo., Cape Girardeau—Prospective estimators on remodeling and enlarging post office and court house, bids Jan. 18 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: Frank A. Ortmann, Flint, Mich.; John Kinnare, Inc., 2816 Monroe St., Chicago, Ill.; Gerhardt & Son, 633 Broadway, Cape Girardeau; C. E. King, 1009 Westland St., Charlottesville, Va.; Tloga Contracting Co., 921 W. Tloga St., Philadelphia, Pa.; Upchurch Construction Co., Bell Bldg., Montgomery, Ala.; McCarthy Bros. Construction Co., Delmar and Euclid Aves.; Noyes, Roach & Co., Synd. Trust Bldg.; Lecoutour Construction Co., 4162 Flora Blvd., all St. Louis. 12-31

N. C., Wadesboro—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid at \$40,750 from Barge-Thompson Co., 136 Ellis St., N. E., Atlanta, for limestone post office and at \$47,000 for marble. 12-31

Okla., Duncan—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, selected Sorey & Vahlberg, Braniff Bldg., Oklahoma City, as archts. for post office. 7-30

Okla., Norman—Prospective estimators on \$160,000 post office, bids Jan. 25 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: Christy-Dolph Construction Co., Nathan Wohlfeld, both Construction Bldg., Dallas, Tex.; James I. Barnes, Logansport, Ind.; W. S. Bellows Construction Co., Okla. Ind.; H. W. Underhill Construction Co., Braniff Bldg., both Oklahoma City, Okla.; Williams & Patch, 757 Broadway, Gary, Ind.; Barbour & Short, Norman, Okla.; West Englewood Construction & Supply Co., 6239 S. Ashland Ave., Chicago, Ill.; Richter & Lall, Box 381, Pauls Valley, Okla.; Algernon Blair, First Natl. Bank Bldg.; Upchurch Construction Co., Bell Bldg., both Montgomery, Ala.; Theriault Contracting Co., 234 E. Johnson St., Philadelphia, Pa.; C. A. Dieter Construction Co., Joplin, Mo.; Cooke & Maxey, Shawnee, Okla.

Okla., Stillwater—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, selected R. W. Shaw, Bass Bldg., Enid, Okla., as archt. for \$135,000 post office. 7-30

Tex., Big Spring—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, selected Herbert M. Greene, LaRoche & Dahl Construction Bldg., Dallas, as archts. for \$165,000 post office. 7-30

## BUILDING NEWS

### BUILDINGS PROPOSED

#### Bank and Office

Tex., Longview—Horace Glover, M. Tracy Flanagan, Oliver Daniels and others selected Wyatt C. Hedrick, Inc., First Natl. Bank Bldg., Fort Worth, as architect, and P. E. Zimmerman, Longview, as asso. archt., for \$165,000 office bldg., N. Fredonia and N. Tyler Sts.; 6 stories, 150x60 ft., steel frame, brick and stone; 7 stores on first floor; about 23 offices on each of upper floors. 11-19

#### Churches

N. C., Sanford—Roman Catholic Church purchased site, Gulf St. and Summit Ave., for future erection of church.

Tex., Kilgore—Methodist Church, Rev. Bob Poole, Pastor, erect \$27,000 bldg.; archt. selected.

Tex., San Antonio—St. Johns E. L. Church, Henry F. Heim, Chmn., Bldg. Comm., 600 Goliad St., have plans ready about Jan. 22 for \$80,000 bldg., Nueva and S. Presa Sts.; 1 story, 45x130 ft., Gothic type, 19x19-ft. tower 72 ft. high, oak and tile floors, acoustical treatment, oak roof truss and purlins; seat about 650; Marvin Eickenroht, Archt., 710 Maverick Bldg.; L. D. Royer, Mech. Engr., Smith-Young Tower. 11-26

#### City and County

Ark., Camden—Ouachita County Bd. of Commrs. selected Thos. Hardin, Little Rock, as architect for court house to replace structure destroyed by storm; T. J. Gaughan, member, Bldg. Comm. 12-24

Fla., Tampa—Hillsborough County Comsn., Chas. T. Friend and John T. Gunn, Committee, opens bids Jan. 29 for 1-story annex on south side courthouse; brick, conc., fireproof vaults; M. Leo Elliott, Inc., Archt., 415 Tampa St. 1-7

La., New Orleans—City Comsn. Council approved ordinance to appropriate \$100,000 to supplement \$80,000 available by Milne Boys' Home, Gen. Allison Owen, Chmn., Bldg. Comm., to erect bldg., Gentilly section. 11-19

La., New Orleans—City Purchasing Agt., Room 24, City Hall, opens bids Jan. 26 for alterations to Jefferson Market; exterior changes, new stalls, conc. and tile floors, screens, lighting fixtures, refrigeration, tile work, plumbing, wiring, etc.; Sam Stone, Jr., & Co., Archts., Masonic Temple Bldg. 1-7

Md., Baltimore—City Park Bd., Geo. LeRoy Nichols, Supt., erect 1-story frame field house, Carroll Park; showers, lockers; call for bids in about 3 weeks.

Md., Easton—City Council plans fire engine house.

Tex., Austin—City, Mrs. Chas. Stephenson, Chmn., Library Bd., University Station, soon let contract for \$150,000 Italian Renaissance type bldg.; conc. and stone, 1 story; 192x68 ft., auditorium to seat 300, space for 100,000 volumes; H. F. Kuehne, Archt., Littlefield Bldg., Austin. 10-15

#### Dwellings

D. C., Washington—Arthur Seagren, Water and N. Sts., has low bid from W. E. Mooney, Inc., 2539 Pennsylvania Ave., erect stone and brick residence and garage, 16th St., N. W.; 2½ stories, steel sash, slate roof, tile work, steam heat, overhead doors; Victor Mindelef, Archt., 4416 Kingle Rd. 12-31

D. C., Washington—Orville Rice, 231 Ascot Pl., N. E., has permit for 3 brick and frame

dwellings, 6726-6804 Piney Branch Rd., N. W.; 2 stories; total \$19,000.

D. C., Washington—Floyd O. Miller has permit for brick and cinder block dwelling, 3250 Quesada St.; 2 stories.

D. C., Washington—Lt. Commr. F. P. Williams, 1 H St., N. W., has permit for 2 dwellings, 1439-43 Juniper St., N. W.; 2 stories, \$9,000 each.

D. C., Washington—L. E. F. Prince, Investment Bldg., has permit for \$12,000 residence, 1731 Holly St., N. W.; brick, 2 stories.

Fla., Miami—John J. Koubek, care Robt. L. Weed, Archt., 2620 Biscayne Blvd., alter and erect addition to residential living, dining and breakfast rooms, kitchen, stair hall, gallery, loggia on first floor; bedroom and bath on second.

Fla., Miami Beach—Chas. B. Ware, Chin-quapin Rd., outside of Philadelphia, Pa., reported, plans residence, Hibiscus Island.

Ga., Atlanta—N. D. Eubanks, 176 Marietta St., N. W., has low bid at \$18,340 from Christian & Bell, Red Rock Bldg., for residence; Burge & Stevens, Archts., 101 Marietta Bldg. 12-24

Ga., Griffin—Miss Evey Kell remodel and enlarge residence; brick and frame; Hentz, Adler & Shutze, Archts., 1330 Candler Bldg., Atlanta.

Ga., Millen—Mrs. Margaret Joiner erect frame residence; 1 story, 6 rooms, oak and pine floors, shingle roof; Ye Planry, Inc., Archt., 1713½ Live Oak St., Dallas, Tex.

La., New Orleans—Wilbur G. Carradine, 1841 Calliope St., considers erecting residence, Valence and Robertson Sts.; probably not start work for 4 or 5 months.

Md., Baltimore—Bernard F. Owens, Archt., 20 E. Lexington St., drawing plans for 2-story brick residence, Brookwood Rd.; \$10,000.

Md., Easton—Winfield M. Campbell, the Walnuts, Kansas City, Mo., purchased part of Fairview on Miles River, Talbot County; reported, having plans drawn by local archt. for residence; lay out airfield.

Mo., Kansas City—Zurn Building Co., Rialto Bldg., has permit for 10 dwellings, 2201-26 E. 67th Terrace; total \$15,000.

Mo., Kansas City—Home Investment Co., Commerce Bldg., has permit for 5 dwellings; \$3500 each.

Mo., Kansas City—Harry H. Silverforb, 6733 Prospect St., has permit for 3 dwellings, 5824-30 Michigan St.; total \$10,000.

N. C., Wendell—Alonza Richardson rebuild burned residence.

Tex., Beaumont—Fletcher Graham erect \$20,000 residence, Caldwell; Georgian Colonial type, 10 rooms; Irby & Woodside, Archts.; bids in.

#### Government and State

Ala., Fort McClellan, Anniston—Constructing Quartermaster, Fort McClellan, opens bids Feb. 9 for stable; brick, 2 stories, 72x32 ft., conc. floor and foundation, slate roof.

Ala., Montgomery—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid at \$811,400 from Algernon Blair, First Natl. Bank Bldg., Montgomery, for post office; low bid at \$33,529 from Otis Elevator Co., 810 18th St., N. W., Washington, for elevator plant; Frank Lockwood, Archt., 119 Adams Ave., Montgomery. 12-10

D. C., Washington—Architect of the Capitol, David Lynn, postponed opening bids for addition to Library of Congress from Jan. 12 to Jan. 19; \$6,500,000; Pierson & Wilson,

Tex., Pampa—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, selected DeWitt & Washburn, Kirby Bldg., Dallas, Tex., and Thos. B. Lippincott, Philadelphia, Pa., as archts. for \$180,000 post office. 9-3

Tex., Texas City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid at \$70,700 from Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala., for post office. 12-31

Va., Danville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, may call for bids in March for \$390,000 post office and Federal bldg., Main and Ridge Sts.; fireproof, white limestone, granite base, steel frame encased in terra cotta, conc. and tile floors, metal windows and outside doors, 3 stories, 135x100 ft., ventilating system, detention cell; J. Bryant Heard, Archt., Masonic Temple Bldg., Danville. 10-15

Va., Lynchburg—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, revising plans for post office, court house, etc.; low bids lately noted. 12-17

### Hospitals, Sanitariums, Etc.

Ala., Mobile—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, opens bids Jan. 29 for extension and remodeling of main hospital bldg. (except elevator) and constr. of nurses' quarters, officers' residences, boiler house, garage, etc., U. S. Marine Hospital; \$450,000; drawings from office Supvg. Archt.; Warren, Knight & Davis, Protective Life Bldg., Birmingham, Ala., and Chandler C. Yonge, Merchants Natl. Bank Bldg., Mobile, Archts.; W. C. Spiker & Co., Engrs., Standard Bldg., Atlanta, Ga. 12-10

Ark., Hot Springs National Park—Additional prospective estimators on superstructure of \$1,500,000 Army and Navy General Hospital, bids Jan. 20 by Constructing Quartermaster: Westinghouse Electric Elevator Co., Walnut at 30th St., Philadelphia, Pa.; Theodore Stark Construction Co., Inc., Cedar Rapids, Iowa; A. J. Rife Construction Co., 1913 Harwood St., Dallas, Tex.; W. J. Riley, Box 322, Monroe, La.; John E. Ericsson Co., 123 W. Madison St.; J. B. Noelle Co., 808 N. Franklin St., Anderson & Co., 1632-6 W. 75th Place; Paschen Bros., 33 N. LaSalle St., all Chicago, Ill.; C. G. Kershaw Contracting Co., Crowley, La.; Pike & Cook Co., Inc.; Ring Construction Co., 814 Wesley Temple Bldg.; Piper, Drake & Schumacher, Baker Bldg., all Minneapolis, Minn.; Electric Shop, 216 Texas St., Shreveport, La.; Southern Ornamental Iron Works, Arlington, Tex.; Yale & Towne Manufacturing Co., Stamford, Conn.; Cut Stone Association of Indiana, Bloomington, Ind.; Kimball Brothers Co., Ninth St. and 11th Ave., Council Bluffs, Iowa; J. L. Simmons Co., Inc., Bloomington, Ill.; Kewanee Manufacturing Co., Kewanee, Wis.; J. A. Prichard Co., 526 Broad St., Fort Worth, Tex.; Peters Paint Co.; Ed B. Mooney Storage Co., both Hot Springs; Meyer Light Co., 444 Washington St., Gary, Ind.; R. H. Bouligny, Inc., 509-11 W. Morehead St.; Weslee Corp., Power Bldg., both Charlotte, N. C.; Vilter Manufacturing Co., Milwaukee, Wis.; Warner Elevator Manufacturing Co., Cincinnati, O.; Bracy Bros. Hardware Co., 513 Main St., Little Rock, Ark.; Texarkana Electric Co., Texarkana, Tex.; A. W. Kutsche Co., 2111 Woodward St., Wichita, Kan.; F. W. Jackson Co., Inc., 816 Martin Bldg., Birmingham. 12-31

Cal., San Francisco—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, plans to start work within 90 days on \$1,600,000 Marine Hospital; plans and specifications completed. 10-22

Cal., Crownsville, Waterbury—Crownsville State Hospital, Dr. R. P. Winterode, Supt., probably have plans completed in month or 6 weeks for \$283,000 bldg. for feeble-minded colored children, as first unit of building program; brick, 3 stories; administrative offices and dining room; plans by Herbert G. Crisp of Office of Joseph Evans Sperry, Calvert Bldg.; Herman Doeelman, Struc. Engr., Balto. Trust Bldg.; James Posey, Mech. Engr., Balto. Trust Bldg. 7-16

Cal., Glenn Dale—Dist. Comms., Dist. Bldg., opens bids Jan. 12 (extended date) for nurses' home at Children's Tuberculosis Sanatorium; estimators lately noted. 12-31

Cal., Perry Point—Veterans Administration, Room 764, Arlington Bldg., Washington, opens bids Feb. 2 for incinerator bldg. and equipment, including incinerator, chimney and grading, Veterans Administration Hospital; work includes excavation, rein. conc., hollow tile, brick work, cast stone, iron work, steel sash, cement tile roofing, roof ventilators, can washing equipment, outside sewer, water and elec. service connections, etc.; drawings from Constr. Service, Room 764.

Cal., Jackson—State Hospital Removal, Improvement and Land Sale Comn., Chas. A. Gordon, Sec., New State Capitol, has fol-

lowing low bids on work for \$5,000,000 Mississippi Insane Hospital: Doctors' cottages, Group No. 2, and supt.'s garage and servants' house, J. R. Flint, 215 Most Ave., at \$17,942; plumbing and heating, Davis Plumbing Co., 115 S. State St., at \$2525; wiring, Stuart C. Irby Co., 120 N. Congress St., at \$585, all Jackson; telephone system, Stuart C. Irby Co., at \$15,218; lighting fixtures and accessories, Stuart C. Irby Co., at \$13,979; furniture and equipment, Doehler Furniture Co., 286 Fourth Ave., New York, at \$72,355; laundry equipment, Troy Laundry Machinery Co., Ltd., 2231 S. Pkwy., Chicago, at \$42,015; dryers, Judelson Dryer Co., Moundsville, W. Va., at \$3085; N. W. Overstreet, Archt., Standard Life Bldg., Jackson; Vinson B. Smith, Advisory Archt., Gulfport. 12-31

Miss., Philadelphia—Choctaw Indian Agency, R. L. Enoch, Supt.-Physician, has low bid from Walter L. Perry for nurses' home; brick veneer, 1 story, 58.1x28.4 ft., conc. foundation, asbestos shingle comp. roof; furnishings, equipment, etc., \$1000. 12-24

S. C., Columbia—Columbia Hospital, H. H. McGill, Supt., has plans about completed for \$275,000 expansion program; 2 bldgs.; red brick, stone trim, fireproof, 3 stories, 180x155 ft. and 42x125 ft. 12-3

### Hotels and Apartments

Tenn., Memphis—Abe Grodsky, Houston, Tex., leased Hermitage Hotel, 200 Union St.; change name to Congress Hotel; remodel and redecorate.

Tex., San Antonio—Joe Civiletto, 401 Devine St., erect apartment, Huisache Ave. and Montrose Blvd.; face brick, cast stone trim, 2 stories, 16 rooms, oak floors, tile drains and fireplaces; N. Straus Nayfach, Archt., Alamo Natl. Bldg.; bids by invitation.

Va.-Tenn., Bristol—A. J. Edwards, Bristol, Tenn., plans 2 fireproof apartment houses; 2 to 4 suites each; brick on tile or stone on tile, fireproof, soundproof, steel windows.

### Miscellaneous

D. C., Washington—World War Cyclorama, Inc., Chas. J. Wynne, Pres.-Gen. Mgr., plans bldg., Riverside Drive, to house painting; site 80,000 sq. ft.

La., New Orleans—Westside Country Club, Geo. A. Hero, Jr., Pres., received sub-bids Jan. 18 at office Theo. L. Perrier, Archt., Maritime Bldg., for clubhouse below Algiers; date of closing not set; stone tile or brick veneer, 2 stories, about 60x50 ft., slate roof, rein. conc. foundation, sheet metal work, showers. 11-12

Tex., Alamo—Rio Grande Sportsman's Club, E. R. Redlich, Pres., Alamo, plans following: 2-story clubhouse, 160x240 ft., lockers, bowling alleys, billiard room, gymnasium, laundry, auto repair shop, etc.; two 18-hole golf courses, 2 polo fields; 190x450-ft. baseball diamond; outdoor conc. swimming pool; dredge 2800 ft. of lakefront; construct 400-ft. lake; gardens; landscaping; sketches by R. H. Bullard, 607 Fifth Ave., New York; L. Macomber, Constr. Engr., 111 W. Washington St., Chicago, Ill. 7-2

W. Va., Moundsville—Moundsville Country Club, Dr. O. F. Covert, Pres., rebuild structure noted burned at \$10,000 loss; temporary bldg. at once, permanent bldg. planned in Spring.

### Railways Stations, Sheds, Etc.

La., New Orleans—Southern Pacific Lines, R. W. Barnes, Ch. Engr., Houston, expect to start work within 60 days on \$1,000,000 railway freight terminal and 8-story office bldg., Canal St. near Front St.; use terminal for fruit and vegetable shipments; cold storage plant. 8-6

### Schools

Fla., Pensacola—Escambia County School Bd., Wm. Tyler, Supt., plans 2 schools, Bluff Springs and Sunshine Hill; \$12,000.

La., Houma—Prospective estimators on \$15,000 elementary school, bids Jan. 21 by Terrebonne Parish School Bd.: C. C. Duplantier, Houma; Wm. Wallace, Pere Marquette Bldg.; Geo. A. Broas Construction Co., 4413 Elba St.; T. A. Pittman, Inc., Canal Bank Bldg.; Herman T. Makofsky, 3034 Palmyra St., all New Orleans; Clifford H. King, Raymond St., Baton Rouge. 12-31

La., New Orleans—Most Holy Name of Jesus Congregation opens bids Jan. 25 (extended date) for parochial school; Rathbone DeBuys, Archt., Hibernia Bldg.; E. A. Christy, Const. Archt.; John A. O'Brien, Louisiana Bldg., additional estimator. 1-7

Md., Salisbury—Salisbury Normal School, Dr. Wm. J. Holloway, Principal, have plans completed in about 1 month for additions;

south wing and structure to connect with central unit; dining hall, social room, infirmary, bedrooms to accommodate 28, 3 stories; extend auditorium stage floor for gymnasium, seat 400; Smith & May, Archts., Balto. Trust Bldg., Baltimore. 8-6

Mo., St. Louis—St. Louis Catholic Diocese, P. J. Ritchie, 2431 N. Grand Blvd., plans boys' high school, Grand Blvd. and Delor St.; rein. conc., brick and stone.

Mo., St. Louis—West Walnut Manor School Dist. voted \$60,000 school bonds.

Tenn., Knoxville—Knox County Court will issue \$500,000 bonds for Central High School.

Tex., Austin—Prospective estimators on bldgs., except students union group, for University of Texas, bids Jan. 29:

All Bldgs.—Bellows-Maclay Construction Co., Construction Bldg.; Henger & Chambers, Republic Bank Bldg.; L. H. Lacy Co., Burt Bldg.; P. O. B. Montgomery, Constr. Bldg.; C. L. Shaw & Co., 767 S. Lamar St., all Dallas, Tex.; Banspach Bros., 250 W. Josephine St.; McKenzie Construction Co., Smith-Young Tower, both San Antonio, Tex.; J. E. Morgan & Sons, 319 Texas St.; Robt. E. McKee, 1900 Texas St., both El Paso, Tex.; S. & W. Construction Co., 938 Shrine Bldg., Memphis, Tenn.; H. B. Zachry Co., Schertz, Tex.

Dormitory—C. S. Oates & Son; Hylmar M. Seby, 518 College St., both Abilene, Tex.; Basil P. Panas & Co., M. & M. Bldg., Houston.

Library, Physics, Geology and Home Economics—Central Contracting Co., Athletic Bldg., Dallas.

Library—Harry B. Friedman, Fort Worth, Tex.; Nathan Wohlfeld, Constr. Bldg., Dallas; American Construction Co., Houston.

Architecture and Engineering—W. Frank Little Construction Co., Amarillo Bldg., Amarillo, Tex.

Physics and Library—Southwest L. E. Myers Co., Allen Bldg., Dallas; Walsh, Burney & Key, Inc., Box 822, San Antonio.

Engineering, Geology, Home Economics and Dormitory—Nolan Stewart, Adams Bldg., Port Arthur, Tex.

Home Economics, Geology, Architecture and Engineering—H. W. Underhill Co., Constr. Bldg., Dallas.

Dormitory and Geology—H. E. Wattinger & Co., Box 122, Austin, Tex.; Walter Whitely, 3009 Knox St., Dallas.

Physics and Engineering—Ed. W. Oeffinger, 710 Avenue A, San Antonio.

Physics, Home Economics and Geology—R. F. Ball, Elec. Bldg. Annex, Fort Worth.

Physics, Home Economics, Engineering, Architecture and Geology—James T. Taylor, Aviation Bldg., Fort Worth.

Home Economics and Geology—C. S. Lamble & Co., 817 Amarillo Bldg., Amarillo.

Engineering, Dormitory and Geology—Eckert Burton Construction Co., 210 Burt Bldg., Dallas.

Engineering, Architecture and Dormitory—F. A. Mote, Constr. Bldg., Dallas.

Herbert M. Greene, LaRoche & Dahl, Archts., Constr. Bldg., Dallas. 12-17

Tex., Pasadena—School Bd., R. E. Parks, Pres., erect \$15,000 manual training bldg. at high school; also build ½-mile cinder track on athletic field.

Tex., San Antonio—City Bd. of Education, Mrs. J. E. King, Pres., approved final plans for North Side Junior School; brick and rein. conc., 2 stories, L shape, 240 ft. long, 15 classrooms, cafeteria, kitchen, library, locker rooms, shops, auditorium, etc.; Atlee B. & Robt. M. Ayres, Archts., Smith-Young Tower; Robt. B. Kelly, Milam Bldg., Asso. Archts.; L. D. Royer, Mech. Engr., Smith-Young Tower; Lilly & Drought, Engrs., 1104 Frost Natl. Bk. Bldg.; Phelps & DeWees, School Archts., Gunter Bldg.

Tex., San Antonio—City Bd. of Education, Mrs. J. E. King, Pres., approved final plans for Sidney Lanier Junior School; soon call for bids; brick and rein. conc., 2 stories, lockers, showers; Morris, Noonan & Wilson, Archts., Bldrs. Exch. Bldg.; L. D. Royer, Mech. Engr., Smith-Young Tower; Phelps & DeWees, School Archts., Gunter Bldg.

Tex., San Antonio—City Bd. of Education, Mrs. J. E. King, Pres., opens bids Jan. 26 for colored elementary school, Iowa, Monumental and Piedmont Aves.; rein. conc., face brick, struc. clay tile backing, 2 stories and basement, tar and gravel roof, wood floors, metal lath; cafeteria, 12 classrooms; Harvey P. Smith, Natl. Bank of Commerce Bldg., and Emmett T. Jackson, Bldrs. Exch. Bldg., Asso. Archts.; L. D. Royer, Mech. Engr., Smith-Young Tower; Matthews & Kennan, Engrs., Smith-Young Tower; Phelps & DeWees, School Archts., Gunter Bldg.

Tex., San Antonio—City Bd. of Education, Mrs. J. E. King, Pres., opens bids Jan. 21 for Laura Steel Elementary School No. 38; brick and rein. conc., wood, cement and terrazzo floors, conc. built-up roof, 1 story, fireproof; Bartlett Cocke, Archt., 615 Maverick Bldg.; L. D. Royer, Mech. Engr., Smith-



Young Tower; Terrell Bartlett Engineers, Inc., Engrs., Smith-Young Tower; Phelps & DeWees, School Archts., Gunter Bldg.

Va., Remington—Fauquier County School Bd., Warrenton, revising plans for \$30,000 school; call for new bids before Feb. 1; L. E. Warner, Archt., Grace Street Bank & Trust Bldg., Richmond, Va. 12-24

W. Va., Huntington—Bd. of Education considering erection of \$200,000 high school in East Huntington.

### Stores

D. C., Washington—Thompson Furniture Co., 2006 Rhode Island Ave., N. E., has permit for \$20,000, 2-story, brick and conc. store, 1814 Hamlin St., N. E.

Tenn., Knoxville—Fidelity-Bankers Co. having sketches drawn by W. A. Rutherford, Jr., Kingston Park, for business bldg., site of Deaderick Bldg.; Weaver & McGill, 12-24

## BUILDING CONTRACTS AWARDED

### City and County

Tex., Big Spring—Mosher Steel & Machinery Co., 5200 Maple St., Dallas, Tex., and Concrete Engineering Co., Omaha, Neb., reported, have contract for 200 tons struct. steel shapes for \$200,000 city hall, auditorium and fire station bldg.; Peters, Strange & Bradshaw, Archts., Myrick Bldg., Lubbock, and Big Springs; C. S. Lambie & Co., Contrs., Amarillo Bldg., Amarillo. 12-10

Va., Lynchburg—City started work on \$150,000 armory-market; steel, conc. and brick, 3 stories, 230 ft. long, conc. floors and foundation, Barrett built-up roof; Johnson & Brannon, Archts., Peoples Natl. Bank Bldg.; C. L. Lewis, Contr., Allied Arts Bldg. 1-7

### Dwellings

Ala., Selma—R. D. Neely let contract, including plumbing, heating and wiring, to H. J. Koski, Selma, for residence; brick veneer, 1 story, 50x75 ft., hardwood terrazzo, tile and cement floors, slate roof, cement foundation; Warren, Knight & Davis, Archts., Protective Life Bldg., Birmingham; Chandler C. Yonge, Archt., Associated, Merchants Natl. Bk. Bldg., Mobile. 12-17

D. C., Washington—D. J. Dunigan, Tower Bldg., excavating for 9 brick dwellings, 5401-17 Kansas Ave., N. W.; \$60,000; 2 stories, 18x32 ft., pine, oak, linoleum, terrazzo and tile floors, flat tin and slate roofs, conc. and brick foundation; furnishings, equipment, etc., \$10,000; Geo. T. Santmyers, Archt., Edmonds Bldg.; owner builds.

D. C., Washington—S. M. Payne, 1938 12th St., N. W., erect brick residence, 1428 Morris Rd., S. E.; 2 stories, tin roof, hot water heat; L. W. Giles, Archt., 1200 U St.; Superior Construction Co., Contr., 1331 G St.

D. C., Washington—Waple & James, 1229 14th St., erect 2 brick dwellings, 624-26 Madison St.; 2 stories, slate roofs, hot water heat; total \$18,000; owners build.

Fla., Cocoa—Henry W. Ewing, 10616 Prospect Ave., Chicago, Ill., and Cocoa, let contract to J. A. Jackson, Cocoa, for 2-story residence, Carleton Terrace; 40x32 ft.; work started.

Fla., Miami—Wm. R. and Francis Higdon, care G. H. Baumer, 342 N. E. Second Ave., erect \$10,000 residence, Biscayne Blvd. and 58th St.; rein. conc., conc. block and stucco, 2 stories, tile and oak floors, tile and comp. roof; B. Kingston Hall, Archt., 133 Sixth St., Miami Beach; Patrick McCarl, Contr., 411 N. E. 25th St., Miami.

Fla., Miami Beach—J. Albert, Contr., 1235 Pennsylvania Ave., erect 3 bungalows, Meridian Ave.; rein. conc., conc. block, stucco, tile and comp. roofs, wood floors, tile baths.

Fla., Miami Beach—Carl Green, 423 Avenue Navarre, Coral Gables, started work on \$50,000 dwelling, 4550 N. Bay Rd.; rein. conc., conc. block and stucco, 2 stories, 42x73 ft., tile and oak floors, tile roof, steel sash; patio, loggia; C. LeRoy Kinports, Archt., 3897 Kumquat Ave., Coconut Grove; day labor.

Fla., Miami Beach—Wilborn Harborn, 1661 Alton Rd., erect 2-story dwelling, 4467 N. Meridian Ave.; 52x81 ft., L shape, 4 baths, 2-car garage, tile and oak floors, tile roof, steel sash, orna. stone and iron, elec. refrigeration, probably gas or elec. heating; Lester Avery, Archt., 1661 Alton Rd.; owner builds.

Ga., Atlanta—John Terrell, Beechwood Drive, N. C., erect brick veneer residence near Rivers Rd.; 2 stories and basement, conc.

517 W. Church Ave., have contract to raze present bldg.

Va., Richmond—Thalhimer Bros., Inc., Wm. B. Thalhimer, Pres., 615 E. Broad St., purchased adjoining bldg.; remodeling work started; new show windows.

### Theatres

Tex., San Antonio—Suburban Theatres, Inc., care John T. Wilson, Jr., 719 Fredericksburg Rd., considering bids for alterations and additions to Harlandale Theatre, 5626 S. Flores St., and to Highland Theatre, 1833 S. Hackberry St.; W. Scott Dunne, Archt., Melba Bldg., Dallas.

### Warehouses

Ga., Moultrie—Colquitt County Tobacco Warehouse Co., W. C. Vereen, Pres., start work in 60 days on tobacco sales warehouse; frame, galvanized iron, 1 story, 180x300 ft., brick foundation, comp. roof. 1-7

foundation, Johns-Manville asbestos roof, hardwood and tile floors, steam heat; Augustus Constantine, Archt., 1330 Candler Bldg.; Ray M. Lee, Contr., 1071 N. Highland Ave., N. E.

Ga., Sea Island Beach—Eugene O'Neill, Ridgefield, Conn., let contract to Windsor Construction Co., Brunswick, Ga., for Spanish type winter residence; hollow tile and stucco, 2 stories and basement, 10 rooms, 3 baths, conc. foundation, hardwood and tile floors, tile roof; Francis L. Abreu, Archt., Dunwoody Bldg., Brunswick. 12-17

Md., Baltimore—Jos. O. Blair, 3613 Grantley Rd., erect \$10,000 cinder block and stucco residence, 3608 Sequoia Ave.; 2 stories, 35x42 ft.; owner builds.

Md., Baltimore—Wm. I. Norris, 8 E. Lexington St., erect 2 brick and stucco dwellings, 6509-11 Sefton Ave.; 2 stories; owner builds.

Md., Baltimore—L. M. Hendler, 1100 E. Baltimore St., erect patio, loggia and conservatory additions to residence, 913 Lake Drive; Lucius R. White, Archt., Ct. Sq. Bldg.; Avon Construction Co., Contr., 216 E. Lexington St.

Md., Baltimore—Jos. O. Blair, 3606 Sequoia Ave., erect \$10,000 stone and cinder block dwelling and garage, 3600 Sequoia; 2 stories, 35x42 ft.; owner builds.

Md., Baltimore—Arundel Construction Co., Frank Carsonitelli, 910 Trinity St., erect 2-story frame residence, Harford Rd.; Cyril H. Hebrank, Archt., Central Sav. Bank; completing plans.

Md., Leonardtown—St. Aloysius R. C. Church let contract to Morrison Bros., Bethesda, Md., for residence; brick, 3 stories, 45x50 ft., oak floors, conc. foundation, slate roof, cast stone, steel sash and trim, \$25,000; Rossell Edw. Mitchell, Archt., 7 E. Melrose St., Chevy Chase, Md. 12-17

Miss., Greenville—S. M. Logan erect brick veneer bungalow, Gam-Wynn Park; Harper Richards, Archt.; Harry C. McKee, Contr.

Mo., St. Louis—Goodfellow Natural Bridge Realty Co., erect 2 brick dwellings, 5820-24 Dressell St.; 1 story, 24x45 ft., comp. roofs, hot air heat; total \$10,000; H. J. Wolfgram, Contr., Overland.

Mo., St. Louis—Roy Sanders, 3001A Wilmington St., erect 3 brick dwellings, 5444-50 Morzanford Rd.; 1 story, 24x39 ft., comp. shingle roofs, hot air heat; total \$10,500; Sanders Bros., Archts.-Contrs., 3901A Wilmington.

N. C., Greensboro—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid at \$4185 from Hilam, Inc., Milwaukee, Wis., for lighting fixtures for post office. 1-7

Okla., Sand Springs—Chas. H. Hubbard let contract to F. H. Mattern, Commercial Bldg., Tulsa, for English Cotswold type residence; stone from site, metal casement windows, handmade English tile roof, lavatory, 3 baths; John Duncan Forsyth, Archt., Exch. Bank Bldg., Tulsa. 9-24

### Government and State

D. C., Washington—Dist. Commrs., Dist. Bldg., let contract at \$152,800 to W. P. Rose Co., Wayne Natl. Bank Bldg., Goldsboro, N. C., for fire engine house and clinic and removal of existing bldgs., 13th St. near K St., N. W.; 455,000 cu. ft., brick, 4 stories, 73x116 ft. 12-17

D. C., Washington—Contracts let on \$8,500,000 U. S. Supreme Court superstructure; Rubber tile flooring, J. M. Adams Floor Co., Inc., 1503 Conn. Ave., N. W.; elevators, Otis

Elevator Co., 810 18th St., N. W.; elec. wiring, Howard P. Foley Co., 2020 I St., N. W., all Washington; terra cotta roof tile, Atlantic Terra Cotta Co., 25 W. 44th St.; conc. work, Robt. E. Carrick & Co., Inc., 420 Madison Ave.; struc. steel erection, Karl Koch Erecting Co., Inc., 153 W. 72nd St.; waterproofing, R. I. W. Waterproofing Corp., 386 Fourth Ave.; white glass, Pittsburgh Plate Glass Co., 10 E. 40th St., all New York; exterior stone work, Georgia Marble Co., Tate, Ga.; bronze work and bronze windows, General Bronze Corp., Long Island City, N. Y.; interior marble work, Gray-Knox Marble Co., Sutherland Ave., Knoxville, Tenn.; struc. steel, McClintie-Marshall Corp., Baltimore Trust Bldg.; plumbing and heating, Riggs, Distler & Co., Inc., 216 N. Calvert St., both Baltimore, Md.; mill and cabinet work, Matthews Bros. Manufacturing Co., Milwaukee, Wis.; Bluestone paving, Taylor Stone Co., McDermott, O.; exterior marble work, Vermont Marble Co., Proctor, Vt.; hollow metal doors, Niedringhaus, Inc., 205 W. Wacker Drive, Chicago, Ill.; roofing and sheet metal work, J. Edw. Linck Co., 2651 N. Marshall St., Philadelphia, Pa.; Cass Gilbert, Archt., 244 Madison Ave., New York; Geo. A. Fuller Co., Gen. Contr., Munsey Bldg., Washington; David Lynn, Architect of the Capitol. 1-7

Fla., Belle Glade—State started work on first bldg. for convict farm near Belle Glade; use convict labor to erect sleeping quarters, mess hall, guards' quarters, equipment sheds, etc.; A. R. Richardson supervising constr.

Fla., Fort Lauderdale—U. S. Coast Guard Headquarters, Washington, let contract at \$29,895 to Hintz Construction Co., 1510 N. W. Eighth Terrace, Miami, for frame barracks; 1 and 2 stories, 53.4x160 ft., wood floors, conc. foundation, asbestos shingle roof. 12-10

La., Barksdale Field, Shreveport—J. B. Eurrell & Co., 225 S. 15th St., Philadelphia, Pa., has contract at \$38,700 for gypsum ceilings, Air Corps bldgs. 12-24

La., New Orleans—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, let contract at \$26,346 to T. A. Pittman, Inc., 1127 Canal Bank Bldg., for additional bldgs., Quarantine Station. 12-31

Tex., Waco—State Bd. of Control, Austin, let contract at \$25,972, including wiring, to J. E. Johnson Construction Co., 1000 Franklin St., for dormitory, Home for Dependent and Neglected Children; plumbing and heating, Lain Co., 815 Jefferson St., both Waco; brick and fireproof, hollow tile, terrazzo and tile floors, built-up roof, rein. conc.; Birch D. Easterwood, Archt., 614 Liberty Natl. Bk. Bldg., Waco. 12-31

Va., Hampton Roads, Norfolk—Navy Dept., Bureau of Yards and Docks, Washington, let contract at \$173,284 to Virginia Engineering Co., Inc., First Natl. Bk. Bldg., Newport News, Va., for administration bldg., Naval Air Station; 3 stories, piling, conc. foundation and frame, brick walls, slate and built-up roofs. 1-7

Va., Hampton—Veterans Administration, Arlington Bldg., Washington, let contract to Virginia Engineering Co., Inc., First Natl. Bank Bldg., Newport News, Va., for temporary Barrack Bldg. No. 1, Veterans Administration Home; conc. and sheet metal work, slate surfaced asphalt shingles, roof ventilators, metal lathing, gypsum wall board, outside sewer and steam service connections. 12-17

W. Va., Webster Springs—W. G. Hamrick erect \$18,000 bldg. to be leased to Government for post office; probably 2 stories and basement; store, barber shop, hall.

### Hospitals, Sanitariums, Etc.

Tex., Terrell—State Bd. of Control, Austin, let contract at \$55,370, including tunnel, to A. M. Campbell, 922 S. College St., Tyler, for dormitory, Terrell State Hospital; fireproof, brick, steel and rein. conc., 2 stories, 130x101 ft.; plumbing and heating, Federal Plumbing & Heating Co., 2515 S. Harwood St., Dallas, at \$9040; Lindsey & Kilmer, Archts., Greenville.

W. Va., Parkersburg—City let contract to Plate Construction Co., for \$125,000 additions and alterations to Camden-Clark Memorial Hospital; elec. work, McHenry Electric Co., at \$5900; plumbing, \$4663, and heating, Nelson Plumbing Co., 12-31

### Hotels and Apartments

Ala., Albertville—Mrs. B. Witt and Geo. Saunders let contract to G. A. Paul, 14 Bonits Drive, Birmingham, for Hotel Saunders; brick veneer on frame, 2 stories, L shape, 75x75 ft., 3600 sq. ft., pine, oak and tile floors, conc. foundation, cast stone, asbestos shingle hip roof, 25 rooms, 12 baths, 2-pipe steam heat, tile baths; Chas. H. McCauley, Archt.-Engr., 705 Jackson Bldg., Birmingham. 12-24



Tex., Dallas—W. A. Waldrop, First Natl. Bank Bldg., started work on \$35,000 apartment, Loma Alto and Roland Aves.; Highland Park West; brick, 2 stories, 8 suites, steel sash, tile roof, elec. refrigeration, heated air system; H. S. Avery, Archt.

### Railways Stations, Sheds, Etc.

Okl., Enid—General Warehousing Co. purchased interest in proposed \$340,000 terminal warehouse and freight forwarding terminal from General Development & Shares Corp.; contract let to W. E. Krumeri; work start during Jan.; 2 stories and basement with foundation for 5 stories, 140x260 ft., about 1500 lin. ft. trackage; equipped for cold and general storage; George Ernst V. Blumenauer & Associates, Archts., Broadway Tower. See Want Section—Building Material and Equipment. 10-22

### Schools

Ga., Athens—Additional sub-contract let on law bldg. and dormitory, University of Georgia, on which dormitory roof is in place and conc. frame being poured on law bldg.; Asphalt tile floors, W. A. Lippincott, Inc., 24 Cain St., N. W., Atlanta, Ga. Material purchased—hardware (Yale and Towne), Beck & Gregg Hardware Co., 64 Marietta St., N. W., Atlanta; kalamain doors, Richmond Fireproof Door Co., Richmond, Ind.; Hentz, Adler & Shutze, Archts., 1330 Candler Bldg.; Robt. S. Fiske, Conslt. Engr., 1421 Healey Bldg., both Atlanta; Potter & Shackelford, Inc., Conrs., Allen Bldg., Greenville, S. C. 12-3

La., New Orleans—Additional sub-contracts let on \$200,000 St. Phillip Elementary School: Millwork, Enoch Lumber & Mfg. Co., 800 S. State St., Jackson, Miss.; wiring, Busy

Electrical Works, 621 Poydras St.; sheet metal work, Holzer Sheet Metal Works, 321 Burgundy St.; glazing, Pittsburgh Plate Glass Co., 314 Girod St.; painting, Walter Scrimshaw, 4300 Elba St.; tile work, Ducros Tile & Terrazzo Co., 523 Royal St.; roofing, Olympia Roofing Co., 321 Burgundy St., all New Orleans; H. Pratt Farnsworth, Contr., 420 Canal Bk. Bldg., all New Orleans. 7-7

Tenn., Whitehaven—Shelby County Bd. of Education, will let contract to B. E. Buffalo & Co., Inc., for \$125,000 school; Geo. Mahan, Jr., Archt., City Sav. Bank Bldg., all Memphis. 11-12

Tex., College Station—Houston Structural Steel Co., P. O. Box 338, Houston, has struc. steel and steel joist contract for \$200,000 chemistry bldg., A. & M. College; roof deck, General Supply Co., 227 S. Salado St., San Antonio; Prof. F. E. Giesecke, College Archt., College Station; L. D. Royer, Mech. Engr., Smith-Young Tower, San Antonio; Will A. Orth, College Station, in charge of constr. 12-31

Tex., San Antonio—City Bd. of Education let contract at \$23,020 to Ed W. Oeffinger, 710 Avenue A, for addition to Herff School No. 18, 949 S. Hackberry St.; brick and rein. conc., 2 rooms; plumbing and heating, A. J. Monier & Co., 1446 N. Flores St., at \$7199; elec. work, Thomson Electric Co., 1615 Broadway, at \$1473; Ellis Albaugh, Archt., 941 Austin St.; L. D. Royer, Mech. Engr., Smith-Young Tower; Lilly-Drought, Engrs., Frost Natl. Bank Bldg.; Pheips & DeWees, School Archts., Gunter Bldg. 12-24

### Stores

D. C., Washington—Niepold's, Inc., 307

Seventh St., S. W., erect business bldg., 1224 23rd St., N. W.; brick and conc., 3 stories, 122x41 ft.; Warren Spencer, 1350 Jonquil St., N. W., receiving sub-bids.

Tex., Galveston—J. M. Gibbons, 1617 23rd St., started remodeling work on bldg., Post-office St. near 21st St., leased to W. T. Grant Co., 1441 Broadway, New York, for store; work under supervision of G. H. Blanchard, constr. engr. for lessee.

### Theatres

Tenn., Nashville—Following have sub-contracts on \$600,000 office bldg. and garage unit of \$2,000,000 theater and office bldg. for Warner Bros. Pictures, Inc., 321 W. 44th St., New York: S. H. Pomeroy Co., 282 E. 134th St.; Gillis & Geohagan, 537 W. Broadway; American Mast Corp., 149th and East River; Kawneer Co., 420 Lexington Ave., all New York; Birmingham Ornamental Iron Works, care John Williams Co.; J. M. Gallagher & Son Co., 119 Fifth Ave., N.; John Burchard & Son Co.; Nashville Stone Setting Co., 703 Fourth & First Natl. Bk. Bldg.; H. G. Heins, 935 Church St.; Geo. L. Phillips Co., 122 15th Ave.; Pittsburgh Plate Glass Co., 1102 Grundy St., all Nashville; Architectural Decorating Co., 1600 S. Jefferson St., Chicago, Ill.; Newberry Electric Co., Century Bldg., St. Louis, Mo.; Ingalls Limestone Co., Bedford, Ind.; Cold Spring Granite Co., Cold Spring, Minn.; Lawton-Stephens Co., 427 Marcy Ave., Brooklyn, N. Y.; Marr & Holman, Archts., Stahlman Bldg.; H. R. Maler, ch. of constr. for Warner Bros., both Nashville; G. A. Zimmerman Corp., 18 E. 41st St., New York, and Sumner Construction Co., Sumner Bldg., Nashville, contractors. 11-6

### THE CLASSIFICATIONS IN THIS SECTION ARE:

## WANT SECTION

#### Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

#### Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

#### Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

*Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.*

#### Machinery and Supplies

**Belting.**—Enterprise Mill, Inc., Pittsboro, N. C.—Wants prices and data on 80 ft. of 20 to 24-in., used double leather belting.

**Paint Mill.**—W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on steel roller paint mill, used equipment preferred.

**Hunter Machinery Co.** (Mchy. Dealers), Box 1106, Charlotte, N. C.—Wants prices and data on:

(1) **Feed Water Heater**—open type, for 500 h. p. engine, used, good condition

(2) **Fire Pump**—steam driven, Underwriters', 100 g. p. m., used, good condition.

**Lawrence Manning** (Mchy. Dealer), 185 17th St., N. E., Atlanta, Ga.—Wants prices and data on:

(1) **Diesel Engines and Generating Units**—50 to 300 h. p., used, good condition, up to date

(2) **Roll Mill**—Sturtevant No. 2 duplex, 3 mold ring, used, good condition, Georgia delivery

(3) **Rotary Dryer**—indirect heat type, for gas firing, to dry 3 tons kolin per hour from 20% to 2% moisture, used, good condition.

**Machinery Record**, Hackley Morrison (Mchy. Dealer), Mutual Bldg., Richmond, Va.—Wants prices and data on:

(1) **Hoist**—100 h. p., double drum, electric, for derrick use, or

(2) **Motor (Slip Ring)**—100 h. p., with reversible controller, for mounting on hoist.

#### Miscellaneous

**Tubing (Spiral).**—Johnston Engineering Co., 959 Central Ave., St. Petersburg, Fla.—Wants prices and data from manufacturers on spiral, corrugated steel tubing, approx. 5 in. outside diam., 12 or 14 gauge thickness, for expansion and alignment joints in Diesel engine exhaust lines.

#### Building Material and Equipment

George Ernst V. Blumenauer & Associates, Broadway Tower, Enid, Okla., want prices on following for \$340,000 terminal warehouse

and freight forwarding terminal: Cement, rock, sand, elevators, refrigeration machinery, cork insulation, waterproofing, rein. and struc. steel, steel sash and doors, refrigerator doors, handling equipment, heating, ventilation, water tanks, plaster, plumbing, roofing, elec. motors, etc.

**Talbot & Boschert**, 816 American Bldg., Baltimore, Md., want prices on following for dwellings:

**Roofing**—slate, tile.

**A. J. Edwards**, Bristol, Tenn., interested in plans and ideas for 2- to 4-suite apartments of brick and tile or stone and tile; may use other material than tile; wants prices on materials.

#### Bids Asked

**Asphalt.**—City, Office of Secretary, 225 City Hall, Houston, Tex.—Bids Jan. 20 for approx. 50,000 gal. 250-penetration asphalt.

**Bridges.**—State of Oklahoma, 3 bridges. See Construction News—Roads, Streets and Paving.

**Cement.**—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Jan. 20 for cement for various bureaus and city departments; J. Herbert Gaston, City Pur. Agt.

**Clearing.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids Jan. 20 for clearing reservations A and B, D. C. building program, Washington, D. C.

**Cover Plates etc.**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 18 for cover plates, etc., for Locks 15, 20, 23 and 26, Ohio River.

**Covering Steam Main.**—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Jan. 20 for covering 8-in. high-pressure steam main at Baltimore City Hospitals; Luke Ellis, Act. Mechanical-Electrical Engr.

**Derrick.**—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn.—Bids Jan. 20 for 10-ton, steel derrick.

**Electrical Supplies.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Jan. 20 for electrical supplies, delivery Quantico, Va.

**Elevator.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids Jan. 29 for installing passenger elevator, etc., in U. S. Marine Hospital, extension and remodeling, Mobile, Ala.

**Flooring (Cork Tile).**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids Jan. 25 for cork tile flooring, U. S. Dept. of Agriculture, extensible bldg., Washington.

**Fueling System.**—Constructing Quartermaster, Barksdale Field, Shreveport, La.—Bids Jan. 20 for gasoline fueling system.

**Fuel Oil.**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 19 for fuel oil for tow-boats Kanawha and Gillette.

**Guard Rail.**—Oklahoma. See Construction News—Roads, Streets and Paving.

**Kitchen Equipment.**—Constructing Quartermaster, Langley Field, Hampton, Va.—Bids Feb. 3 for kitchen equipment in air corps barracks.

**Lathes (Tool-Room).**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 26 for motor driven, geared head tool-room lathes.

**Lockers.**—Quartermaster, Marine Corps, Washington, D. C.—Bids Jan. 29 for 10,110 trunk lockers.

**Metals.**—Chemical Warfare Service, Edgewood Arsenal, Md.—Bids Jan. 19 for steel, stable arc welding rods, steel tubing, steel wire.

**Motor Truck.**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 20 for light motor truck, express body, of not less than 1500 lb. capacity, latest model, with standard factory equipment, including spare tire on rim or wheel and other equipment.

**Refrigeration.**—Quartermaster Corps, Wm. Beaumont General Hospital, El Paso, Tex.—Bids Feb. 2 for installing refrigeration for drinking water, together with making all connections to plumbing and electrical work in ward buildings 6, 7, 8 and 9.

**Motor Truck.**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 20 for motor truck, Ohio River (Lock 26).

**Pumping Equipment (Water).**—Bd. of Awards, Baltimore, Md., Leon Small, Water Engr.—Bids Jan. 20 for furnishing and erecting pumping equipment for Pikesville automatic pumping station.

**Refrigerating System Repairs.**—City Pur. Agt., City Hall Bldg., New Orleans, La.—Bids Jan. 26 for repairs and alterations to refrigerating system in Jefferson Market, Magazine and General Pershing Sts.; plans with Sam Stone, Jr., & Co., Masonic Temple Bldg., New Orleans.

**Road.**—Galveston, Tex. See Construction News—Roads, Streets and Paving.

**Sand, Gravel, Cement and Stone.**—City, Office of Secretary, 225 City Hall, Houston Tex.—Bids Jan. 20 for 1500 cu. yd. mud shell, 5 cars pea gravel, 30 cars road gravel, 27 cars granite gravel, 5 cars concrete gravel, 3 cars 3-in. limestone rock, 4 cars ¾-in. limestone rock, chats, 1¼-in. to ¾-in. limestone rock, 5 cars sand for concrete, 100 bbl. Portland cement, 1 car quick-setting cement.

**Screening and Porch Construction.**—Constructing Quartermaster, Langley Field, Hampton, Va.—Bids Jan. 29 for screening and porch construction of bachelor officers' quarters, Fort Monroe, Va.

**Steel Shelving and Counters.**—Constructing Quartermaster, Langley Field, Hampton, Va.—Bids Jan. 18 for steel shelving and counters for parachute building.

**Universal Grinding Machine.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Feb. 2 for motor driven universal grinding machine.

**Variety Saw Table, and Mortising Machine.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Feb. 2 for variety saw table, and motor driven mortising machine.

**Water Main.**—Dist. Commrs., Room 509, Dist. Bldg., Washington, D. C.—Bids Jan. 20 for furnishing and laying 7685 ft. of 36-in. water mains and 7150 ft. of 48-in. water mains, c. 1. or conc., including bends, inspection manholes, sleeves, etc.

**Window Shades.**—Constructing Quartermaster, Langley Field, Hampton, Va.—Bids Jan. 22 for manufacture and installation of window shades for bachelor officers' quarters, Fort Monroe, Va.

**Wire, etc.**—Chemical Warfare Service, Edgewood Arsenal, Md.—Bids Jan. 19 for 162 ft. soft copper wire, 18 sq. ft. brass, 423 ft. brass rod, 468 ft. same, 600 ft. copper wire, etc.

**Wire Rope.**—U. S. Engr. Office, Huntington, W. Va.—Bids Jan. 28 for wire rope for derrick boats.

Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 26 for following:

**Planer**—single surface, ball bearing, motor driven

**Lathe (Engine)**—selective head, motor driven

**Lathe (Engine)**—motor driven.

Div. of Purchase and Sales, Dept. of Agriculture, Washington, D. C.—Bids Jan. 19 for:

**Water Still**—automatic, for Shreveport, La.

**Automobile**—sedan, for New Orleans, Jan. 19

**Lime Sulphur Solution**—1100 gal., for Rosslyn, Va.

Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until dates indicated for:

**Bus Transfers**—40, for auxiliary lighting and spares, Jan. 19

**Wire Rope**—5400 ft., for Charleston, Jan. 19

**Ship Decking**—35,000 ft., for Hampton Roads, Jan. 26

**Ties**—creosoted, switch and railroad, for Washington, Jan. 19

**Flat Cars**—100,000 lb. capacity, 3 for Portsmouth; 2 for Philadelphia; 5 for Norfolk; 3, used, for Portsmouth; 2 for Philadelphia; 5 for Norfolk, Jan. 19.

Purchasing Agt., Post Office Dept., Washington, D. C.—Bids Jan. 19 for:

**Truck Bodies**—1500 200-cu. ft. capacity, mail truck, with cabs; also 500 100-cu. ft. capacity, mail truck, with cabs

**Trucks**—500, complete, gross load 1800 lb.; also 1500, complete, gross load 4200 lb.

**Chassis**—500, motor truck, gross load 1800 lb.; also 1500, motor truck, gross 4200 lb.

#### Unusual Cotton Cloth Calendar

The Ingalls Iron Works Company, Birmingham, Ala., has issued its 1932 calendars on cotton cloth, which is probably the first time cotton has been utilized in the preparation of a full-sized twelve-sheet calendar. The sheets are 21 by 33 inches and the entire calendar contains about 6½ square yards of cotton cloth. An exceptionally fine piece of printing has been done on the material used and the wide screen half tone illustrations make a pleasing appearance. The calendars are the product of the Stone Printing and Manufacturing Co., Roanoke, Va. The fabric calendar is suggestive as offering a means to broaden the market for cotton, reacting favorably on the South and the entire country. The Ingalls Iron Works Company points out that while the nature of its business "does not require the consumption of any of these commodities, we have this year contributed in so far as possible." In addition to a calendar for the current month, each sheet carries a calendar for the preceding and succeeding month, with attractive views showing the application of the company's products in various classes of construction.

#### Babcock & Wilcox-Fuller Lehigh Consolidate

The Babcock & Wilcox Company, New York, announces a further consolidation of resources and facilities of the Babcock & Wilcox and Fuller Lehigh organizations in merging the sales offices of the two companies. Business heretofore carried on separately or jointly will be done in the name of the Babcock & Wilcox Company through its district sales offices in order to render better and more efficient sales service. Southern district sales offices are located in the Candler Building, Atlanta; 1762 Railway Exchange Building, St. Louis, and 344 Camp street, New Orleans. Other district sales offices are maintained in Boston, Philadelphia, Pittsburgh, Cleveland, Chicago, Detroit, Denver, New York, Cincinnati, San Francisco, Seattle, Portland, Los Angeles, Salt Lake City and Phoenix.

#### Western Electric Sales \$229,000,000

William H. Meese, vice-president and works manager of the Western Electric Point Breeze Works near Baltimore has announced that the company's total sales in 1931 will be approximately \$229,000,000 which compares with \$361,478,000 in 1930. During 1931 the company operated on the policy of spreading the available work among as many employees as possible, and the entire force is now working on shortened hours, with a maximum of five days per week. About 44,000 employees are on the Western Electric payroll, of which number nearly 2300 are members of the Point Breeze personnel.

#### Bibb Brick Company Reorganized

The Bibb Brick Company, Macon, Ga., has been reorganized as the Bibb Brick & Tile Company and is now operating with more than 100 employees on overtime. W. Jordan Masee, president of the Bibb Brick Company, is chairman of the board and sales director of the new organization. Henry K. Burns is president, and O. J. Masee is vice-president and operating general manager. Contracts have been secured for brick and tile to be used in the Cochran public schools, Jacksonville parcel post building, Miami post office, Cave Springs School for the Deaf, Fort Valley and West Point post office buildings and the Fitzgerald Baptist Church building.

(Continued on page 42)

## INDUSTRIAL NEWS

#### Materials Handling Institute

At a recent meeting in Cleveland, Ohio, of more than seventy representatives of materials handling equipment manufacturers, the Materials Handling Institute was formed to promote a more intense mechanical handling consciousness in the minds of industrial executives, and to promote "better understanding of the relationship in a cooperative way between the various groups." Officers of the Institute include: F. E. Moore, Mathews Conveyor Co., Ellwood City, Pa., president; J. B. Webb, vice-president; H. W. Standert, Northern Engineering Works, Detroit, treasurer, and J. A. Cronin, Materials Handling & Distribution, secretary. A board of governors was elected with one representative from each of the following groups of manufacturers: Hoist and Cranes; Conveyors—Continuous; Floor Trucks and Castors; Industrial Trucks and Tractors; Crawler Cranes; Accessories; Conveyors—Gravity; Conveyors—Portable; Lift Trucks and Skids; Transmission; and Monorail. The board was given authority to add to its number and, with the officers, to appoint committees. The meeting was adjourned to the week of May 2 to 6 during the American Foundrymen's Association meeting at Philadelphia, the exact time and day to be determined later.

#### Merco Nordstrom Cincinnati Office

The Merco Nordstrom Valve Company, San Francisco, Cal., has established an office in the Chamber of Commerce Building, Cincinnati, Ohio. The Charleston, West Virginia, office of the company is being closed.

#### Chief Mechanical Engineer for Byllesby

H. W. Fuller, vice-president in charge of engineering and construction, Byllesby Engineering and Management Corporation, Chicago, announces the appointment of Herbert S. Whiton as chief mechanical engineer of the company. He has been acting chief mechanical engineer since the retirement of H. Boyd Brydon in March, 1930. Mr. Whiton was formerly associated with the Babcock & Wilcox Company, Stone & Webster and the Minneapolis General Electric Company. He is a member of the American Society of Mechanical Engineers and the Harvard Engineering Society.

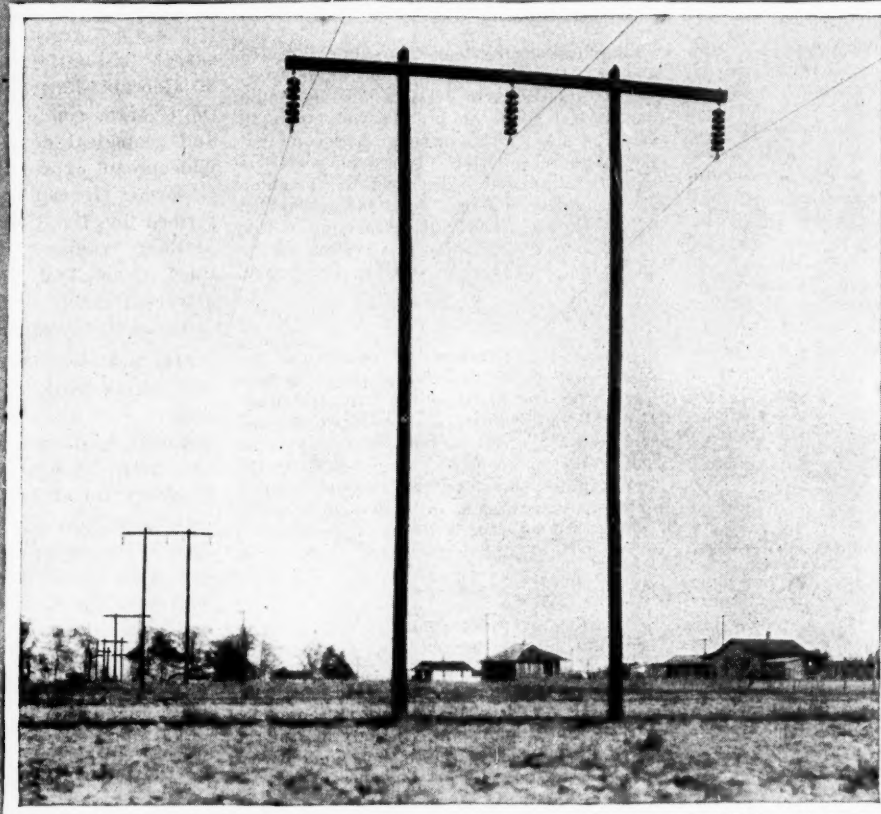
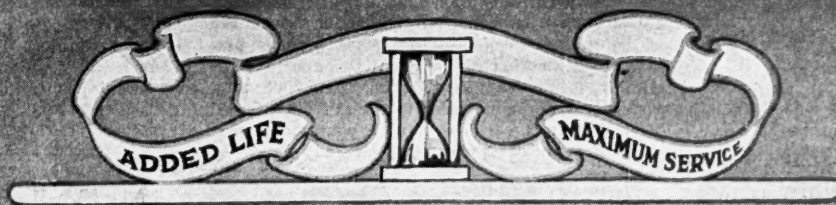
#### Assistant Manager Cement Association

The Portland Cement Association, Chicago, announces appointment of Henry R. Albion as assistant manager, Eastern offices, with headquarters in Atlanta, Ga. Mr. Albion is well known in connection with roads and other public improvement work in the Southeastern states. In his new capacity he will serve as assistant to J. R. Fairman, manager of the Eastern offices of the Portland Cement Association.

#### Armco Office to Middletown

The Cincinnati District office of the American Rolling Mill Company will be moved to the home office of the company in Middletown, Ohio, about January 16. Resident salesmen will remain in Cincinnati, and direct telephone communication will be maintained between Cincinnati and Middletown, in order to continue close personal contacts with Armco customers in the Cincinnati area.





### A & L Transmission-Line Poles

A & L PINE POLES, pressure treated with pure creosote oil, are unexcelled for supporting power transmission lines.

They resist decay under exposure to rain, sleet, or snow, changing climate, or salt water.

With practically no maintenance expense—as they do not require painting—they carry their heavy load for a lifetime.

No. 22

## AYER & LORD TIE CO.

Railroad  
Cross Ties  
Lumber  
Poles

INCORPORATED  
**CHICAGO**

Bridge Timbers  
Car Stocks  
Piling & Posts  
Mine Timbers

TREATING PLANTS

Carbondale, Ill. Grenada, Miss. North Little Rock, Ark. Louisville, Ky. Montgomery, Ala.

**“CREOSOTE OIL PREVENTS DECAY”**



(Continued from page 40)

**Galena and Valvoline Oil Merger**

Regarding the recent merger of the Galena Oil Corporation, Franklin, Pa., with the Valvoline Oil Company, New York and Cincinnati, an official publication of the latter states that it is the purpose of the Valvoline Oil Company to operate Galena as a component part of its organization, effecting economies and expanding the activities of the enlarged company. In the more than 60 years of its development, the Galena Oil Corporation has built up a wide industrial demand for its lubricating oils, especially among the railroads, while the Valvoline Oil Company, through 65 years of industrial history has also developed a commanding trade in lubricating oils, based on the quality of its products and the reputation of Valvoline executives. Both companies have extensive Southern connections and trade relations. M. J. A. Bertin, president of the Galena Oil Corporation, has been elected a vice-president and director of the Valvoline Oil Company, and will have charge of all Galena activities, including railroad and foreign sales. He has had wide experience in the oil business, both in this country and abroad, and was at one time managing director of the Galena branch in Paris. B. H. Morris, general sales manager of the Galena Oil Corporation, will also remain with Valvoline permanently, becoming chief assistant to Mr. Bertin.

**Armstrong Cork Consolidates Divisions**

The Armstrong Cork Company, Lancaster, Pa., announces the consolidation of all Atlanta branch offices and the warehouses of all divisions at 107 Cone street, Atlanta. These units comprise the Armstrong Cork Co., floor division; Armstrong Cork Products Co., cork division, and the Armstrong Cork & Insulation Co., insulation division.

**Operate Without Lost-Time Accident**

Three of the country's large cement plants, the Northampton, Pa., Leeds, Ala., and Independence, Kans., mills of the Universal Atlas Cement Co., Chicago, went through 1931 without a single lost-time accident, according to B. F. Affleck, president of the company, which is a subsidiary of the United States Steel Corporation.

**Grissom Given Civic Award**

Roland L. Grissom, Natchez, Miss., local manager of the Mississippi Power and Light Company, is the recipient of the first award of a silver trophy given by the City Bank and Trust Company, Natchez, for outstanding public service for Natchez or Adams County.

**Containers for Railroad Shipments**

Use of steel containers for shipment of small merchandise direct to destination has cut shipping time from 24 to 48 hours between Baltimore and points in the Middle West, according to officials of the Pennsylvania Railroad. Container service is now in effect between Baltimore and 15 other large cities east of the Mississippi River, including East St. Louis, Indianapolis, Cincinnati, Dayton, Columbus, Chicago, Fort Wayne, Detroit, Toledo, Cleveland, Buffalo, Erie, Pittsburgh, Johnstown and Altoona. Designed in the shape of large packing boxes, the containers have a capacity of 12,000 pounds each, or about 1/5 that of an ordinary box car. Five

containers fit snugly on a flat car, virtually forming a sectional box car. The use of the containers instead of box cars permits permanent loading for shipment through to destination, the containers being forwarded to a central crane transfer point and transferred bodily to a car loaded with containers from other points for the same destination.

**Trade Literature**

**Aluminum Protection.**—The Aluminum Industries, Inc., Cincinnati, Ohio, have issued folders describing in detail a new aluminum coating for plant or product, adaptable to metal, wood, fabric, stone or any combination of these materials. It is known as Permite Resalum and is declared to "brighten and protect to a degree never before equaled by any paint." The pigment portion of this new aluminum protection is a product of the Aluminum Company of America, Pittsburgh, Pa.

**Charts and Exhibits.**—A publication recently issued by the Policyholders Service Bureau of the Metropolitan Life Insurance Company, New York, deals with Charts and Exhibits in Annual Reports to Stockholders. This bulletin is one of many issued by the Policyholders Service Bureau in the interest of better management in business. Information in the bulletin is based on an analysis of reports of 32 organizations.

**Bicentennial Publication.**—A special number of "Virginia, First in the Heart of the Nation," magazine of the Virginia State Chamber of Commerce, Richmond, has been issued as a George Washington Bicentennial Year Publication. Approximately half of the issue is devoted to the shrines and attractions of the state associated with the life of George Washington.

**Industrial Car Equipment.**—Bulletin No. 1240, illustrating miscellaneous equipment manufactured by the Atlas Car & Manufacturing Company, Cleveland, O., is now being distributed. As the bulletin is intended mainly to give an idea of the diversity of types of cars designed and manufactured by the company, it is more specifically a pictorial record. Separate bulletins are available on the various classes of equipment.

**New Size "Caterpillar."**—The Caterpillar Tractor Company, Peoria, Ill., has developed a "Caterpillar" Thirty-Five to meet the needs of contractors, road officials, loggers and other users of industrial power. This model, a little larger than the Thirty, is illustrated and described in a folder which the company is distributing.

**Steel Interlocking Floor.**—The Belmont Iron Works, Philadelphia, is distributing a bulletin devoted to the Belmont Rolled Structural Steel Interlocking Floor. Joseph G. Shryock, chief engineer of the Belmont Iron Works, details results of comparative tests of riveted, bolted and welded rolled structural steel interlocking floor panels, the tests being arranged by Professor H. C. Berry of the University of Pennsylvania at the Eddystone plant of the Belmont company, and made on three floor panels, each 7 feet wide by 20 feet long, and each identical ex-

cept in the method of attaching the members to each other and to the rigid testing frame or table. The panels were made of 12-inch light-weight structural steel rolled by the Jones & Laughlin Steel Corporation, Pittsburgh, Pa.

**Mr. Mallory's Appointment Pleases**

The appointment of John M. Mallory, general industrial agent of the Central of Georgia Railway, as a member of the Georgia combined board of forestry and geological development has evoked widespread expression of approval for Governor Russell's selection. As described by Dr. Charles H. Herty, Mr. Mallory "ranks high in ability in his lines, throughout the country, and has attracted much favorable attention because of the excellence of his work."

Mr. Mallory has done a large amount of research work, particularly in the extensive clay areas of Georgia, and is an acknowledged expert on ceramics. He has been in intimate touch with the Southern forest and forest products development. Among his numerous writings is the story of the Edgeworth survey, with disclosures that Georgia clays were used for fine productions by British artisans. Forestry men have joined geologists in expressions of gratification on Mr. Mallory's appointment.

**Birmingham Steel Orders**

Birmingham, Ala.—An order has been placed by the Seaboard Air Line Railway with the Tennessee Coal, Iron & Railroad Company, Birmingham, for 2800 tons of steel tie plates. The Seaboard was a large buyer last year of rails, slag and other materials in this district.

Steel for a bridge at Danville, Tenn., for the Louisville & Nashville Railroad will be ordered in the Birmingham district, it is said, and will be fabricated by the Virginia Bridge & Iron Company, main offices at Roanoke, Va.

**Arthur Pew**

The death is announced December 26, 1931, of Arthur Pew, Atlanta, Ga., for many years a distinguished engineer of the South. He was elected a member of the American Society of Civil Engineers in 1885, and in 1890 was elected a member of the Institution of Civil Engineers of London. In 1911 he was chosen president of the Engineering Association of the South. Mr. Pew is survived by a son, Arthur Pew, Jr., co-partner in the Smith-Pew Construction Co., Inc., Atlanta.



# Prospecting for industrial location

**T**ODAY the struggle for low cost production makes economic geography a vital concern of industry. Business is seeking locations near the source of raw material with the ideal combination of a desirable labor supply, adequate power and transportation facilities, where operations may be conducted free from burdensome legislation.

Appalachian Electric Power Company and its affiliated companies,

Kentucky and West Virginia Power Company and Kingsport Utilities serve over five hundred communities in Kentucky, Tennessee, Virginia and West Virginia.

An interconnected electric system transmits power from modern steam and electric plants whose aggregate capacity is a million horsepower.

It is probable that somewhere in the system you will find the ideal location for your business.

*If you are considering moving your plant or establishing a new division of your business in a location which will more nearly meet all your requirements, get in touch with our Industrial Bureau, Room 1740, 30 Church Street, New York, N. Y. They will give you full information as to the conditions in each community.*

## Appalachian Electric Power Company

and its affiliated companies

### Kentucky and West Virginia Power Company, Inc.

### Kingsport Utilities, Inc.



## Competitive Position of Coal

The coal industry in the United States has suffered from competition of other fuels and from rapid progress of fuel efficiency in general, to a greater degree than in any other great coal-producing country, states the National Industrial Conference Board. In 1913, coal supplied 88 per cent of world energy production; since then its relative importance has declined, until in 1930 its share of the total energy output was only 72 per cent.

To supply necessary facts on which to base consideration of possible remedies for depression in the coal industry the Conference Board has completed an analytical report on "The Competitive Position of Coal in the United States," presenting an analysis of consumption by uses and groups of consumers and by regions, and a review of the competitive situation in both anthracite and bituminous and the economic problems that confront them.

Concerning the frequently suggested plan for governmental control of the industry through the powers of the Interstate Commerce Commission to regulate freight rates and car distribution, the Conference Board says that such a plan "can at the most act only as a palliative to the ills of the industry. Constitutional limitations on the powers of the Federal Government preclude such measures and make it necessary to look in a different direction for a solution of the existing maladjustments in the industry. The alternative is a reconstruction of the coal industry from within."

The report finds many signs of progress toward reconstruction from within in the bituminous industry and points to the fact that since 1920, 1665 companies have been eliminated from the field. During the same period prices of coal have fallen, and the number of miners has decreased. More recently the length of the working year has been increased, and the output per man has risen. When this costly process of deflation is completed, the survivors will face the problem of building a more permanent structure for the future. Finally, says the Conference Board:

"Evolution of the coal industry in the direction of fewer and larger producing companies, using all the resources that modern production technology, merchandising methods, and industrial management have made available may provide a solution of the problem of excess productive capacity. If the more efficient producers, by offering more attractive prices and services to customers than are offered by their less progressive competitors, can be assured of continuous market outlets, they will be in a

position to offer more regular employment to miners and, at the same time, will be better able to prevent wide fluctuations in coal prices. Unfortunately, under conditions of temporary coal shortages or high prices, the opportunist type of operator is able to enter the markets to an extent that may bring about subsequent demoralization when market demand subsides. The coming years alone can determine how far this movement toward consolidation, accompanied by modernization in methods of production, will go, how successfully it can withstand the assaults of uneconomic competition, and to what extent it will result in a condition that will restore profit to producers and provide more satisfactory working conditions for miners.

"It is futile to try to gloss over the fact that the eventual growth of the larger companies must mean the extinction of other companies. A high mortality has already occurred since 1920, and liquidation is not yet complete. Competition under existing conditions of overdevelopment must of necessity have that effect. The results of merging and consolidation will be worth the price that must be paid, if the final outcome is the elimination of inefficient producers and distributors, of destructive and unsound competitive units, and of uncontrolled and unbalanced production."

### \$400,000 Can Factory Projected

New Orleans, La.—Plans have been made by the Continental Can Company, Inc., New York, for the construction of a new factory at Harvey, across the river from New Orleans, with an added investment of \$400,000, according to A. B. Paterson, chairman of the Industrial Bureau of the New Orleans Association of Commerce. Construction is expected to start about January 15 and to be completed by the middle of the year. The new plant will add the open-top type can to the New Orleans' output and increase the capacity of the plant to more than 1,000,000 cans daily. It will require an increased operating force, probably doubling the present force of 75 operatives. Favrot & Livaudais, Ltd., New Orleans, are the architects. John F. Fenn, business manager and sales manager of the New Orleans territory, has been promoted to the sales management of the Chicago area, and James M. Porter, district sales manager here, will assume management of New Orleans operations.

### General Motors Sales Agency

Atlanta, Ga.—Richard H. Grant, vice-president in charge of sales of the General Motors Corporation, Detroit, Mich., announces the organization of the S. E. Sales Corporation to handle General Motors products, with the exception of Chevrolet automobiles, in the Southeastern states. Headquarters of the new company will be in Atlanta.

## KNOXVILLE INDUSTRIAL ACTIVITY

### Plants Recall Employees and Speed Up Operations to Fill Big Orders

Knoxville, Tenn., January 9—[Special.]—An encouraging improvement in industrial operations in a number of major plants in Knoxville greeted the year 1932, according to a report by the Knoxville Chamber of Commerce.

The Southern Extract Company, a large unit of the Mead Corporation, has resumed operations, with a force of approximately 100 men back at work. The company made extensive plant repairs during the period it was idle.

The Austin Tobacco Company, operating a new redrying plant, has increased its force of workers to 150. This plant which is handling a huge quantity of East Tennessee burley tobacco, is operating on two eight-hour shifts.

The Southern Railway has called 100 men back to work in the Knoxville shops. They were laid off December 4.

The Goodall Manufacturing Company, making Palm Beach clothing for men, has acquired additional factory space and the plant is operating at full speed. Approximately 700 workers are now employed. This plant was opened in Knoxville last February with 150 workers employed.

The Gray-Knox Marble Company has been awarded a contract to furnish approximately \$1,500,000 worth of marble for the new U. S. Supreme Court Building at Washington. The company is speeding up operations in order to supply marble on this contract as well as to fill smaller orders that total almost as much.

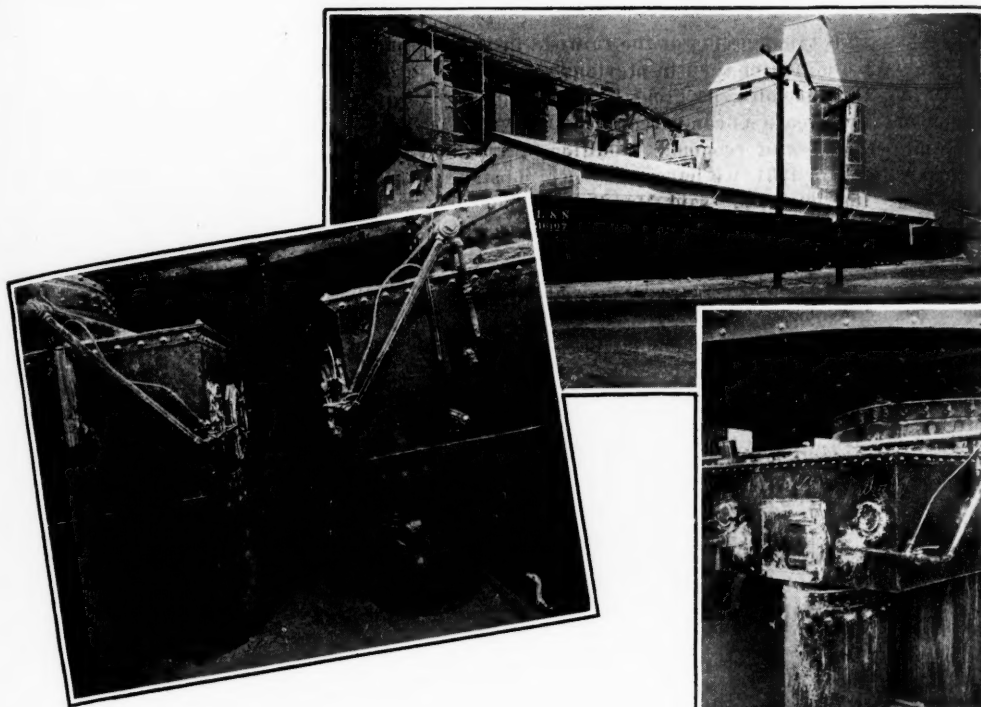
The textile plants at Knoxville continue to operate on practically full-time schedules. Several of the underwear and hosiery plants are working night shifts, having recalled many employees.

The construction of the new \$250,000 gymnasium-auditorium building at the University of Tennessee and the clearing of the site for the \$1,000,000 post office have given employment to several hundred workers. Actual construction of the new postoffice building is expected to begin early in the spring.

The new Henley Street bridge across the Tennessee river at Knoxville was formally opened January 2. The project involved an expenditure of approximately \$1,000,000. The new home of Kern's Bakery, costing \$200,000, has just been finished.

Over 800 ounces of gold and 75,000 ounces of silver were produced in the South during 1931.





*Interior and exterior views of Saginaw Lime & Stone Company, Saginaw, Alabama.*

# Making Lime With *Natural* GAS

The manufacture of lime calls for the application of intense heat to the kilns charged with limestone. The large lime plants in Alabama have welcomed the recent availability of natural gas, among them the Saginaw Lime and Stone Company, Saginaw, Alabama, where this modern fuel is being used with marked success.

By the use of natural gas, the production capacity of a lime works is approximately doubled, without the expense of additional kilns, due to the uniform continuous heat available at required temperature. There is no investment in fuel storage. There is nothing to shovel into the kilns and no ash to take away.

These same advantages apply equally well in many other industrial processes. Natural gas is the ideal industrial fuel. It has played an important part in the industrial development of other sections of the country. It will do likewise for those sections of Mississippi, Alabama and Georgia where natural gas is supplied by the pipe lines of this Company.

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CORPORATION

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### A Notable Achievement

The Cord Corporation during 1931 reported an advance for every division of its eleven companies which build units for use in land, air and water transportation. Improved products at less cost is the reason given for this achievement.

The Auburn Automobile Company, controlled by E. L. Cord and associates, increased its sales more than 150 per cent over 1930, with a dollar volume of more than \$35,000,000.

A substantial increase in both unit sales and dollar volume of business was realized by the Lycoming Manufacturing Company of Williamsport, Pa., during 1931. In addition to building engines for passenger and commercial car use, Lycoming is one of the leaders in the production of aircraft, marine and farm motors, and special engines for industrial use.

The Stimson Aircraft Corporation of Wayne, Mich., under Cord management, is said to produce a plane in the \$12,000 class for less than \$5000. Stimson is reported to have built and sold 78 per cent of all commercial cabin airplanes manufactured in the United States in 1931.

A sales increase of more than 153 per cent was attained by the Central Manufacturing Company of Connersville, Ind., builders of standard automobile bodies. The Limousine Body Company of Kalamazoo, Mich., one of the world's largest builders of convertible bodies, increased its sales 43 per cent. Similar increases were reported by the Columbia Axle Company of Cleveland, Ohio, and the L. G. S. Devices Corporation of Indianapolis, Ind., both manufacturers of automobile parts.

Duesenberg, Inc., of Indianapolis, manufacturing strictly custom built motor cars, is said to have sold more than 85 per cent of all automobiles built in the United States in 1931 for \$8500 or above.

One of the outstanding records set by divisions of the Cord Corporation was that of the Spencer Heater Company of Williamsport, Pa. Adopting a highly aggressive sales program in the face of a 40 per cent decline in the heating industry as a whole last year, Spencer built and sold more units than ever before in a single year.

### \$400,000 Railroad Expenditures

Gadsden, Ala.—The Tennessee, Alabama & Georgia Railway plans a construction and maintenance program for 1932 calling for an expenditure of \$400,000, according to H. F. Bohr, president. In announcing the program, Mr. Bohr

states that profits of the railroad in 1931 were greater than in previous years, due to economies, as gross business showed a decrease as compared with 1930. "Regardless of economic conditions prevailing in 1931, we have enjoyed a substantial business," said Mr. Bohr, "and we look forward to 1932 with confidence."

### Crisp County Power Dam

The statement published that the Crisp County Commission, Crisp County, Georgia, had sold the Crisp County power dam is incorrect. According to J. J. Williams, chairman of the Commission, Cordele, owing to the slowness of the paying of taxes in Crisp County early in the fall, due to the depression which exists everywhere, some slight anxiety was caused among the people and to a slight extent among the Commissioners that Crisp County would not be able to meet the interest and principal on this project. When this was made known, however, Mr. Williams states that taxes began to be paid with great

rapidity, and he sees no reason whatever to contemplate sale of the dam.

Mr. Williams writes, "Our county feels proud of its power plant and I think today a greater majority of the citizens appreciate the significance and worth of the undertaking than at the beginning of the construction. They are nearer 100 per cent for the project now than at any time in the history of the plant. When financial conditions are better, it will prove a very profitable undertaking."

### Harold Brooks Gardner

Harold Brooks Gardner, Eastern district manager of the Westinghouse Air Brake Company, with headquarters in New York, died at his home at New Rochelle, N. Y., January 2. Mr. Gardner was born in 1895 and graduated from Union College, Schenectady, N. Y., in 1916. He was a member of various societies and clubs, among them the Engineers' Club and the Railroad Club of New York.

## Iron Ore Industry

### Decline in Output Proportionately Smaller in South Than in Rest of Country

The iron ore mined in the United States in 1931, exclusive of ore that contained 5 per cent or more of manganese in the natural state, is estimated by the United States Bureau of Mines, at 31,068,000 gross tons, a decrease of 47 per cent as compared with that mined in 1930. The ore shipped from the mines in 1931 is estimated at 28,517,000 gross tons, valued at \$74,579,000, a decrease of 48 per cent in quantity and of 49 per cent in total value as compared with the figures for 1930.

### Lake Superior District

About 82 per cent of the iron ore shipped in 1931 came from the Lake Superior district, in which approximately 25,873,000 gross tons was mined and 23,306,000 tons was shipped, decreases of 48 and 50 per cent, respectively, as compared with the quantities mined and

shipped in 1930. The ore shipped in 1931 was valued at the mines at \$63,919,000, a decrease of 49 per cent. The stocks of iron ore in this district apparently increased from 9,129,040 gross tons in 1930 to 11,749,000 tons in 1931, or 29 per cent.

### Southeastern States

The Southeastern States, in which the Birmingham district is the largest iron-ore producing area, mined approximately 3,706,000 gross tons of iron ore in 1931, a decrease of 38 per cent as compared with 1930. The shipments of iron ore from mines in these States in 1931 amounted to 3,721,000 gross tons, valued at \$6,678,000, decreases of 37 and 43 per cent respectively, in quantity and value as compared with 1930. The stocks of iron ore at the mines in this group of States, mainly in the Birmingham district, decreased from 913,171 gross tons in 1930 to 898,000 gross tons in 1931.

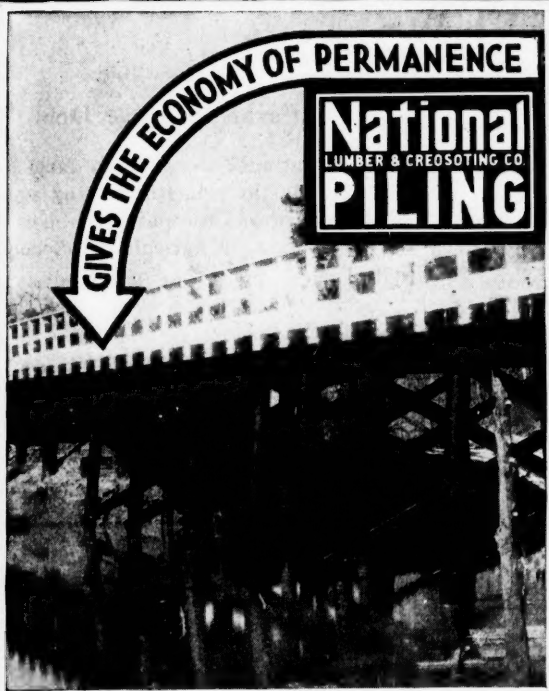
### ESTIMATES OF IRON ORE MINED AND SHIPPED

District	Ore Mined (gross tons)		Ore Shipped		1931	
	1930	1931	Gross Tons	Value	Gross Tons	Value
Southeastern States:						
Alabama .....	5,738,478	3,650,000	5,637,678	\$11,015,336	3,665,000	\$6,510,000
Georgia .....	52,221	21,000	52,221	147,964	21,000	59,000
Missouri .....	132,749	26,000	132,749	508,354	26,000	73,000
North Carolina .....	100	.....	.....	.....	.....	.....
Tennessee .....	27,710	9,000	27,384	76,089	9,000	36,000
Virginia .....	19,596	.....	36,178	65,528	.....	.....
Total .....	5,970,854	3,706,000	5,886,210	\$11,813,271	3,721,000	\$6,678,000
U. S. Total..	58,408,664	31,068,000	55,201,221	\$145,619,059	28,517,000	\$74,579,000



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# FINANCIAL NEWS

## Bond Issues Proposed

Ala., Piedmont—City, Geo. P. Haslam, Mayor, received no bids for \$20,000, 6% refunding bonds. 12-10

Ark., Pine Bluff—City, Harry I. Molderness, Mayor, may issue \$125,000 sewer district bonds.

Ky., Richmond—City Council passed ordinance providing for \$460,000, 6% water works plant purchase bonds.

La., Morgan City—City, Mayor and Bd. of Aldermen, sell \$175,000 water plant bonds in February.

La., West Monroe—City Council employ F. P. Joseph, Const. Engr., Glenmore, as agent to dispose of \$75,000 water bonds.

Md., Annapolis—State, John M. Dennis, State Treas., opens bids Feb. 10 for \$2,122,000, 4½% bonds; \$1,997,000, general construction loan of 1931; \$125,000, Ocean City Inlet loan of 1931.

Md., Baltimore—City, Eugene H. Beer, City Register, City Hall, rejected bids for \$4,205,000, 4% bonds. 12-31

Md., Upper Marlboro—Prince George's County Bd. of Education, Nicholas Orem, Supt. of School, temporarily withdrew from sale \$275,000 4½% bonds. 1-7

Miss., Starkville—City, E. R. Lloyd, Mayor, opens bids Feb. 2 for \$101,000 light plant bonds. 11-12

Mo., St. Louis—West Walnut Manor School Dist. voted \$60,000 building bonds.

Okla., Fairview—Major County Comms., reported, passed resolution providing for \$100,000 road bonds.

Okla., Shawnee—Shawnee School Dist. plans selling \$52,200 bonds at par and accrued interest.

Tenn., Jellico—City, E. S. Miller, Chmn., Light Committee, defeated \$150,000 light and power plant bonds. 12-24

Tenn., Jonesboro—Washington County Court authorized by State Legislature to vote not exceeding \$200,000 school bonds.

Tenn., Knoxville—Knox County Court, reported, voted to issue \$1,000,000 bonds; \$500,000 Henley St. bridge; \$500,000, Central High School.

Tex., Austin—City, Adam R. Johnson, City Mgr., voted \$150,000, 6% school site bonds.

Tex., West University Place, Houston—City, H. B. Schlesinger, Mayor, 3800 University Blvd., Houston, call election in 90 days on \$40,000 to \$50,000 city hall, water tower and fire station bonds. 1-7

Va., Richmond—Henrico County, Julian Gunn, Circuit Court Judge, votes Jan. 27 on bond issue for creation of Sandston Sanitary Dist.

## Bond Issues Sold

Md., Baltimore—Bd. of Pension Trustees will purchase \$1,000,000 of \$4,200,000, 4% bonds, for which city, Eugene H. Beer, City Register, rejected all bids. 12-31

Md., Cumberland—City, Samuel Wertheimer, Commr. of Finance and Revenue, sold \$400,000, 4½%, \$1000 denom. water improvement bonds to Phelps, Fenn & Co., New York, at 89 and accrued interest. 1-7

Tenn., Nashville—State, Roy C. Wallace, Controller, sold \$2,000,000 bonds: \$1,000,000 to Metropolitan Life Insurance Co., New York; \$1,000,000 to syndicate composed of American National Bank, Nashville; Chemical Securities Co., National Bank and Chase National Bank, all New York.

Tex., Hemphill—Sabine County sold \$72,800, 6%, \$800 and \$1000 denom. road and bridge funding bonds to Municipal Bond Corp., Denver, Colo.

## New Financial Corporations

Miss., Indianola—E. A. Tanner, J. W. Gilmer, Jr., and associates considering reorganizing bank.

Tenn., Knoxville—Pratt, Ayres & Co., 724-725 Hamilton Bank Bldg., investment securities firm, formed by Sherman S. Pratt and Morgan Ayres.

Tenn., Knoxville—East Tennessee National Bank, S. V. Carter, Pres., Knoxville, Tenn., acquired East Tennessee Savings Bank, Knoxville.

Tenn., Nashville—National Bond & Mortgage Co., Bennie-Dillon Bldg., capital \$200,000, chartered; R. E. McNellis, Pres.

Bank of La Fayette, W. A. Enloe, Pres., La Fayette, Ga., and Walker County Bank, W. C. Martin, Pres., La Fayette, merged.

Dayton Bank & Trust Co., J. T. Crawford, Pres., Dayton, Tenn., and Graysville Bank, S. G. Hutcheson, Pres., Graysville, Tenn., merged with offices at Dayton under name of Dayton Bank & Trust Co. and with J. C. Crawford, president.

First National Bank, W. W. Woodson, Pres., Waco, Tex., and Liberty National Bank, C. L. Watson, Pres., Waco, merged.

First National Bank, W. H. King, Pres., Whitewright, Tex., acquiring Planters' National Bank, Guy Hamilton, Pres., Whitewright.

First National Bank, J. H. Asher, Pres., Pond Creek, Okla., and First State Bank, F. J. Gentry, Pres., merged as First State Bank of Pond Creek, Dr. H. A. Stalker, Pres.

Bank of Odessa, J. C. Calfee, Pres., Odessa, Mo., acquired Farmers' Bank, H. C. Armstrong, Pres., Odessa.

People's State Bank of South Carolina, R. G. Rhett, Jr., Pres., Charleston, S. C., reported, has arrangements completed for reorganization.

## \$2,000,000 Tennessee Bonds Sold

Nashville, Tenn.—Bonds in the amount of \$2,000,000 have been sold by the State of Tennessee, \$1,000,000 going to the Metropolitan Life Insurance Company, New York, and another \$1,000,000 to a syndicate composed of the American National Bank of Nashville, and the Chemical Securities Company, the National City Bank and the Chase National Bank, all of New York. According to Controller Roy C. Wallace, funds from the sale of the bonds will be used for payment of school obligations.

## Real Estate Tax Situation

A mass meeting of real property owners, to consider the present tax situation, will be a feature of the meeting of the National Association of Real Estate Boards in St. Louis, January 20. Persons not actively engaged in the real estate business will hold sessions on January 21 and 22, as members of property owner divisions that have been organized in local real estate boards. A round table will be held on state tax situations, in which several states have been assigned parts.

## \$2,122,000 Maryland Bonds

Annapolis, Md.—State Treasurer John M. Dennis will open bids February 10 in the office of the Board of Public Works for the purchase of \$1,997,000 of 4½ per cent certificates of indebtedness, known as the General Construction Loan of 1931, and \$125,000 certificates of indebtedness, also to bear a 4½ per cent interest rate, known as the Ocean City Inlet Loan of 1931.

## Farm Mortgage Debt

A continued decrease in farm mortgage loans by principal lending agencies in October and November is reported by the Bureau of Agricultural Economics.

Federal land bank loans outstanding at the end of November were \$1,167,000, a reduction of \$4,000,000 as compared with October. Joint-stock land bank mortgage loans were \$535,000,000 at the end of November, a reduction of \$5,000,000 in the month. Loans of forty life insurance companies totaled \$1,527,000,000 at the end of October, or \$3,000,000 less than at the end of September. Member banks of the Federal Reserve System reported loans of \$376,000,000 outstanding at the end of September, a reduction of \$13,000,000 from the end of June.

Federal intermediate credit bank loans to cooperative marketing associations are reported at \$49,141,000 at the end of November as compared with \$47,027,000 at the end of October; loans to financing agencies aggregated \$74,467,000 at the end of November as compared with \$78,470,000 at the end of October.

The farm mortgage debt in the United States is estimated at \$9,241,000,000 as of January 1, 1930, a decline of 2.4 per cent from the peak of farm mortgage debt in 1928, according to preliminary bureau estimates. This total compares with \$9,468,000,000 for 1928, \$9,360,000,000 for 1925 and \$7,857,000,000 for 1920.

The bureau points out that substantial amounts of the decrease in debt have been due to foreclosure of mortgage farms and to scaling down of loans as a condition of renewals.

The decrease from 1928 to 1930 is due mainly to reductions in the North Central States where about 60 per cent of the farm mortgage debt is found. The East South Central States also showed decline in debt. All other divisions had increases. Increases in the New England, Middle Atlantic, Mountain, and Pacific States were substantial.

## Southern Farm Mortgage Debt January 1, 1930, Compared with January 1, 1928.

States	Jan. 1, 1930	Jan. 1, 1928
Alabama .....	\$83,764,000	\$69,488,000
Arkansas .....	85,577,000	103,464,000
District of Col. ....	642,000	354,000
Florida .....	45,140,000	28,436,000
Georgia .....	100,845,000	123,305,000
Kentucky .....	97,668,000	103,798,000
Louisiana .....	61,379,000	61,760,000
Maryland .....	64,825,000	54,980,000
Mississippi .....	96,864,000	111,500,000
Missouri .....	428,227,000	447,351,000
North Carolina .....	104,979,000	90,866,000
Oklahoma .....	214,033,000	228,513,000
South Carolina .....	67,507,000	77,214,000
Tennessee .....	87,313,000	96,711,000
Texas .....	543,951,000	507,515,000
Virginia .....	88,865,000	87,117,000
West Virginia .....	24,283,000	20,155,000

Total South \$2,195,862,000 \$2,212,527,000



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### \$500,000 Towel Order

Kannapolis, N. C.—The Cannon Mills Co. has been awarded one of the largest towel contracts in its history, involving the manufacture of approximately \$500,000 worth of towels for the F. W. Woolworth Company, New York. These mills, among the largest towel makers in the world, have handled several large orders from that company in the past, but the present order is the largest one yet placed. It will keep the mills running for several weeks.

### \$1,308,000 Beaumont Port Plans

Beaumont, Tex.—W. Scott Hammond, port director, has recommended to the port commission six major improvements to the municipal port, estimated to cost \$1,308,600, for which bonds have been authorized. They include covering the Main Street switch track and the construction of wharves on property recently acquired by the port commission; utilization of Harbor Island by dredging the east and south side and filling in the north side for docks and warehouses for foreign cargoes, to be reached by switch tracks trestled across from unit No. 1 at the foot of Pearl street; provide for

barge and terminal docks, looking particularly to the completion of the Intra-coastal Canal from the east, and extension of and additions to warehouse facilities along the river and basin. Removal of the Main Street track is the only one of the proposals the commission has put in motion. Action on the others is expected early in 1932.

### \$330,000 Airport Construction

New Orleans, La.—Bids will probably be invited this month for the construction of a number of buildings for the new Shushan Airport on Lake Pontchartrain, New Orleans, estimated to cost more than \$330,000. William E. Arthur, president of the National Airport Engineering Company, Ltd., Los Angeles, Cal., has submitted plans and specifications to the Orleans Levee Board for an administration building, hangars 1 and 5, emergency and storage building, and repair and shop building, which have been referred to John Klorer, chief engineer of the Board. The administration building, estimated to cost \$168,000, will be 300 by 70 feet, 2 stories; hangars, 225 by 125 feet each, 24 feet high, to cost \$117,000; emergency and storage building, to cost \$18,000, and the repair and shop building, \$30,000.

### \$250,000 Oil Refining Enterprise

New Orleans, La.—The U. S. Oil Refining Company, Inc., composed of interests of El Dorado, Ark., and Fort Worth, Tex., have taken over the old Southport Refining and Export Company plant at Southport, New Orleans, according to A. B. Paterson, chairman of the Industrial Bureau of the New Orleans Association of Commerce, and plan to begin the operation of a new refinery within 90 days, employing 75 workers. This plant will be devoted to the production of gasoline, gas oil, Diesel oil, household burner oils and fuel oils. The company owns an oil field in the vicinity of El Dorado and has arranged to barge its oils directly to New Orleans, contracts having been made with the Louisiana-Mississippi Waterways corporation to handle 2000 barrels daily. Plans call for the construction of a loading wharf at Southport to handle coastwise and export business, the rehabilitation and later the enlargement of the refinery. H. M. Gilbert, secretary-treasurer of the new company, is in charge of local operations. About \$250,000 will be invested in the enterprise initially. E. L. Chapman, Fort Worth, is president of the company and Sam E. Wilson, El Dorado, vice-president.



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# PROPOSALS

BOND ISSUES

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Bids close January 27, 1932.

**TREASURY DEPARTMENT**, office of the supervising architect, Washington, D. C., December 28, 1931.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 27, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office at Troy, Ohio. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 25, 1932.

**TREASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., December 21, 1931.—**SEALED BIDS**, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 25, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Norman, Okla. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 25, 1932.

**TREASURY DEPARTMENT**, office of the supervising architect, Washington, D. C., December 24, 1931.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 25, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Peru, Ill. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 22, 1932.

**TREASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., December 18, 1931.—**SEALED BIDS**, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 22, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. inspection station at Champlain, N. Y. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

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The rate is the same for both publications—35 cents a line each insertion.

Bids close January 29, 1932.

**TREASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., January 8, 1932.—**SEALED BIDS** in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 29, 1932, for furnishing all labor and materials and performing all work for the remodeling and enlarging of the U. S. post office at Athens, Ohio. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding one set, may be obtained by any satisfactory general contractor at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 18, 1932.

**TREASURY DEPARTMENT**, office of the supervising architect, Washington, D. C., December 22, 1931.—**SEALED BIDS** in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 18, 1932, for furnishing all labor and materials and performing all work for the remodeling and enlarging of the U. S. post office and court house at Cape Girardeau, Mo. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding one set, may be obtained by any satisfactory general contractor at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 21, 1932.

**TREASURY DEPARTMENT**, office of the supervising architect, Washington, D. C., December 24, 1931.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 2 p. m., January 21, 1932, for furnishing all labor and materials and performing all work for new brass water piping, electrically operated drinking fountains, etc., at the U. S. post office, Rocky Mount, N. C. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 26, 1932.

**TREASURY DEPARTMENT**, office of the supervising architect, Washington, D. C., December 28, 1931.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 26, 1932, for furnishing all labor and materials and performing all work for the construction (except elevator) of the U. S. marine hospital at Evansville, Ind. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 29, 1932.

**TREASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., December 31, 1931.—**SEALED BIDS**, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 29, 1932, for furnishing all labor and materials and performing all work for the extension and remodeling of main hospital building (except elevator) and the construction of nurses' quarters, officers' residences, boiler house, garage, etc., for the U. S. marine hospital, Mobile, Ala. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding six sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close February 4, 1932.

**TREASURY DEPARTMENT**, office of the supervising architect, Washington, D. C., January 7, 1932.—**SEALED BIDS** in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., February 4, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Potsdam, N. Y. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Not exceeding 3 sets of drawings and specifications will be furnished to the prospective bidders upon application therefore, when such application is accompanied by a deposit of \$15.00 for each set to insure its return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be acceptable. Each bid must be accompanied by a statement of facts in detail of the business and technical organization of the bidder available for the contemplated work, including financial resources and building experience, and no consideration will be given to a bid which is not accompanied by said statement. The right is reserved to reject any bid where an investigation or the evidence submitted by such bidder does not satisfy the contracting officer that such bidder is qualified to carry out properly the terms of the contract. In awarding a contract, consideration will not be given to bidders who have not constructed within the last six years at least one building comparable with the project for which the bid is submitted. The successful bidder will be required to furnish a performance bond of at least 50 per cent of the contract price. JAS. A. WETMORE, Acting Supervising Architect.



Bids close January 21, 1932.

**TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 30, 1931—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 21, 1932, for furnishing all labor and materials and performing all work for the excavation and concrete foundations of the U. S. post office, etc., at Allentown, Pa. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding 3 sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.**

Bids close January 26, 1932.

### Bridges

#### DEPARTMENT OF PUBLIC WORKS STATE OF MARYLAND STATE ROADS COMMISSION

##### NOTICE TO CONTRACTORS

Baltimore, Md.  
SEALED PROPOSALS for the construction of bridges as follows:  
Allegany County, Contract No. A-118-64—Concrete floor for double 102', more or less, span bridge now under construction over Town Creek on the road from Oldtown to Paw Paw  
Allegany County, Contract No. A-119-62—Concrete floor for single 86'6" span bridge now under construction over the C. & O. Canal on the road from Paw Paw to Oldtown  
Anne Arundel County, Contract No. AA-133-87—Structural steel superstructure for single 200 foot span bridge over the Patuxent River on the road from Upper Marlboro to Mt. Zion, known as Hill's Bridge  
Harford County, Contract No. H-142-44—Concrete floor for single 100 foot span bridge now under construction over Deer Creek on the road from Hickory to Ady

Harford County, Contract No. H-143-44—Concrete floor for single 80 foot span bridge now under construction over Deer Creek on the road from Federal Hill to Clermont Mills

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 26th day of January, 1932, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, for each separate project, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 11th day of January, 1932.

G. CLINTON UHL, Chairman.  
L. H. STEUART, Secretary.

## CLASSIFIED OPPORTUNITIES

### MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

**FOR SALE**—One of the richest Gold Mines in Mexico, just discovered in the State of Veracruz. If you mean business, write to P. O. Box 2707, Mexico City.

**FOR SALE**: 9500 acres prospective oil land very near oil production. Price \$2.50 per acre which is one fourth of actual value. J. C. Harrison & Co., Clarksville, Ark.

### BUSINESS OPPORTUNITIES

**WANTED** job by experienced lumber man, fifteen years in wholesale business, married, strictly sober. Would be interested in some one furnishing capital for part of profits. Address No. 9158, care Manufacturers Record, Baltimore, Md.

**FULL COST PRICE** for your listed bonds in exchange for potential oil lands. This offer good for limited time to raise cash to drill for oil on our lands. Send for free booklet.  
BOX 3, TRENTON, N. J.

**A PATENTED** hygienic device for sanitary purposes, etc., for women, successfully used past year and marketed by drug stores and women agents is for sale by the owner. Price \$7500.00 cash and small royalty. It will stand a \$25,000.00 capitalization and pay enormous returns in a few years. Can be operated by man or woman.  
F. S. PARRIGIN, Martin, Tennessee.

### INDUSTRIAL PLANTS

**ONE THREE-STORY**, Brick manufacturing plant; Woodworking Machinery, ideal for Specialty or General Millwork. Rare opportunity. Located in South. Address No. 9157, care of Manufacturers Record.

### WAREHOUSE

**FOR SALE OR FOR RENT OR LEASE**  
As A Whole Or Part  
4 Acres on the King's Highway (Gosport Road), Portsmouth, Va., with Belt Line Railroad connection—800 feet private side track, large sheds and warehouse all fenced, suitable for indoor or outdoor storage.  
McEWEN LUMBER COMPANY,  
High Point, N. C.

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On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

**CONDITIONS**: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

### FACTORY SITES

**FOR SALE**—MILL OR FACTORY SITE  
Twenty-four acres in fee with twenty acres more at very low rental. Six miles from Selma, Ala., on Highway and Southern Ry. R. R. Siding, sheds, large artesian well and twenty tenant houses. Timber, cotton, other agricultural products and plenty of good labor available. The Brownlee-Lowry Co., Selma, Ala.

### PATENT ATTORNEYS

**PATENTS**—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

**FREE "PATENT PARTICULARS"**  
Sterling Buck, over 25 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

**PAUL B. EATON**, Patent Attorney  
1408-R Johnston Bldg., Charlotte, N. C.  
941 Munsey Building, Washington, D. C.  
417 Wachovia Bldg., Winston-Salem, N. C.

**SEYMOUR & BRIGHT**, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 892, National Press Building, Washington, D. C.

### AGENCIES WANTED

**WANTED TO REPRESENT** manufacturer desiring contact with architects and the general building trade in Alabama, Mississippi, Georgia and Florida. Seventeen years engineering and sales experience. Address B. P. O. Box 2, Birmingham, Ala.

### REPRESENTATIVES WANTED

**MAN WANTED** to represent large manufacturer locally. Experience in industrial field preferred or having successfully operated own business. Earnings substantial, permanent connection. For interview write UNION PRODUCTS COMPANY, Station A, Cleveland, Ohio.

### SITUATIONS WANTED

**GRADUATE CIVIL ENGINEER**, 5 years experience on industrial construction, desires connection with good, progressive concern. Very best of references. Salary very reasonable. Address No. 9156, care of Manufacturers Record, Baltimore, Md.

### MEN WANTED

**IF YOU ARE OPEN** to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-two years. Send only name and address for details.

R. W. BIXBY, INC.,

103 Downtown Bldg., Buffalo, New York

### FOUNDRIES

**STEEL CASTINGS**  
Rough or Machined.  
W. W. PETTIS COMPANY,  
Cincinnati, Ohio.

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13"x8' WILLARD LATHE, taper attachment .....\$150.00  
48"x18' Niles-Bement-Pond Lathe, taper attachment. Quick change...1150.00  
24"x22' Bradford Lathe, taper attachment ..... 725.00  
No. 1 1/2 Valley City Milling Machine 300.00  
24" Queen City B. G. Crank Shaper 675.00  
22" Barnes Drill Press BG, PF..... 115.00  
Send for catalog. Terms to suit.  
CINCINNATI MACHINERY & SUPPLY CO.,  
25 West 2nd St., Cincinnati, Ohio.



# RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES



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*Quick Delivery and Low Prices*



A complete stock of transformers 1 to 1000 kva. Modern methods make our repair service second to none. Special service on breakdown jobs.

*All transformers guaranteed for one year.  
Write for Catalog. No. 125-E.*

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"America's Used Transformer Clearing House"  
212 Walnut St., Cincinnati, Ohio



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Second Hand **PIPE** Overhauled  
and New Wrought Steel New Threads  
Also Cut to Sketch

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Rethreaded, reconditioned, guaranteed suitable for all practical purposes, furnished with new threads and couplings, 400,000 ft. in all sizes from 24" to 3/4" diam. Very attractive prices.

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167 South Street, New York City



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Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

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Box 1099 Charleston, W. Va.

### PIPE NEW

SECOND HAND  
Overhauled and Tested  
New Threads and Couplings  
Established 1904

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Telephone Sunset 1900

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NEW-RECLAIMED-USED

### PIPE

ALL SIZES CUT TO SKETCH  
AND STOCKED  
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BROOKLYN, N.Y.

GUARANTEED



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### FOR SALE

Jeffrey Radial Loader—Type K.  
Self-propelled by 12 HP Gasoline 4 Cylinder Engine.  
Bement Heavy Duty Engine Lathe.  
60" Swing over carriage—68" over Bed.  
Bed 28' Overall—20" Centers—60" Geared Face Plate.  
4 Step Cone Pulley with Countershaft.  
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ARTHUR S. PARTRIDGE  
ST. LOUIS—415 PINE STREET

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Electric Locomotives, 4 ton to 13 ton.  
Motor Generator Sets 55 to 300 K.W.  
A. C. and D. C. Mining Machines,  
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Guyan Machine Shops  
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### BOILERS

1—100 H. P. Erie Economic Boiler  
1—150 H. P. Erie Economic Boiler  
1—200 H. P. Keeler Water Tube Boiler  
All A.S.M.E.

Reading Engineering Works,  
32 N. Second St., Reading, Pa.

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Stocks at principal points.

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### 36" PORTABLE TRACK

25 lb. rails—7 steel ties per 15 ft. sections. Over ten miles, located Ocala, Fla. Also locomotives, cars, cranes and shovels.

Write us or have your local dealer do so.  
EQUIPMENT CORPORATION OF AMERICA  
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of the  
Manufacturers Record

Rates on Request

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FOR SALE

1—Factory rebuilt Lima 1 1/2 cu. yd. capacity. This machine can be equipped with either shovel, clamshell, dragline or drag shovel attachment. Very reasonably priced. Carries new machine guarantee. Located at Newark, N. J.

1—GENERAL 3/4-yd. combination shovel, backhoe, 2 buckets, and crane boom. Very good condition, located Long Island.

1—GA-2 Erie Gas Air Shovel. Fine condition and bargain. Located Newark, N. J.

1—Complete Shovel Attachment for Type "O" Thew. Also, attachment for Type B and B-2 Eries located in New Jersey. Decided bargains.

1—P & H 1 1/2 yd. Gas Shovel. Excellent condition, very attractive price. Located Newark, N. J.

1—Linn Tractor, 6 yd. capacity, with Waukesha Motor. Machine in very good condition. Priced to sell quickly. Located New York State.

1—Koehring 3/4 yd. Shovel. Excellent condition throughout. Located Newark, N. J.

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Manufacturers of Rails, Frogs, Switches, for Permanent and Portable Track. Complete line of Steel Posts for Fence and other purposes.

Catalog will be sent on request

**SWEET'S STEEL COMPANY**  
MANUFACTURERS  
WILLIAMSPORT PENNA.

We produce in quantities to meet your requirements

## SAND and WASHED GRAVEL

QUICK shipments by rail from Baltimore and North East, Md. or in scow and barge lots. Truck or rail shipments from Baltimore, Md.

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MAIN OFFICE: ARUNDEL BUILDING  
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Greater Digging Power  
Faster Operation  
Longer Life  
Guaranteed Against Breakage

They get  
"A Mouthful at Every Bite" and More Bites Per Day

THE OWEN BUCKET CO.  
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Dig Faster  
Dig Deeper

Absolutely straight line reeving reduces upkeep cost

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FILTER GRAVEL**

Washed Sand and Gravel for Concrete Roads and Buildings  
Filter Gravel, all sizes—Building Bricks

**FRIEND & CO., INC.** River St., Petersburg, Va.

Write us for information on Contractors Buckets

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Manufacturers of Material Handling Equipment  
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We manufacture all sizes of stone suitable for all classes of road building and concrete work where only a high-grade limestone is required.

Quarries opened up in 1912.  
Capacity 8000 tons daily.

### Four Quarries

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Room 711, Boxley Building, -ROANOKE, VA.

**BUCYRUS ERIE**

WALKING DRAGLINE EXCAVATORS  
SHOVELS CRANES DRAGLINES DREDGES

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Bucyrus-Eries are cutting costs in every part of the world. All sizes, types and powers of excavators. Railway cranes and "Load-master."

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Convertible  
Model K  
Full revolving light 3/4-yd. convertible shovel, crane, skimmer, dragline, trencher. Short tail swing.

**POWER SHOVELS  
CRANES, DRAGLINES  
TRENCH HOES**  
3/4 yd. to 1 yd. capacity  
Full or part circle

**BAY CITY SHOVELS, Inc.**  
Bay City, Mich.

IF YOU WANT TO GET  
*Southern Business  
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**MANUFACTURERS RECORD**

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The Dart is the Quality Union, and quality is always cheapest.

The Dart is made of Malleable Iron, with extra heavy pipe ends and with double seated ball joint formed of bronze rings.

IN DART UNION THERE IS DOUBLE STRENGTH

**E. M. DART MFG. CO.**  
PROVIDENCE, R. I.

The Fairbanks Company, Sales Agent  
Dart Union Co., Ltd., Toronto, Canada.



# Classified Index for Buyers

## ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

## ACCOUNTANTS (Cert. and Cost.)

Audit Company of the South, Atlanta, Ga.  
Ernst & Ernst, New York, N. Y.

## AERIAL TOWERS.

LeBour, A., Gadsden, Ala.

## AIR COMPRESSORS (Stationary and Portable.)

Armstrong & Bro. Co., R. S., Atlanta, Ga.  
De Laval Steam Turbine Co., Trenton, N. J.  
General Electric Co., Schenectady, N. Y.  
Westinghouse Traction Brake Co., Wilmering, Pa.

## AIR CONDITIONING SYSTEMS.

Niagara Blower Co., New York, N. Y.

## AIR HEATERS.

Babcock & Wilcox Co., New York.

## AIRLOCKS.

Alco Products, Inc., New York, N. Y.

## ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

## APPRAISERS.

Main, Inc., Chas. T., Boston, Mass.

## ARCHITECTS.

Chase, Wm., J. J., Atlanta.  
Main, Inc., Chas. T., Boston, Mass.  
Milburn, Heister & Co., Wash., D. C.  
Mayer Co., Tighman, Allentown, Pa.  
Proctor & Co., Inc., G. Lloyd, Atlanta.  
Sikine & Co., J. E., Greenville, S. C.

## ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

## ARCHITECTURAL IRON WORK.

Dietrich Brothers, Baltimore, Md.  
Virginia Bridge & Iron Co., Roanoke, Va.

## ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

## —Filler.

American Limestone Co., Knoxville, Tenn.

## —Paving.

Barber Asphalt Co., Philadelphia, Pa.

## —Plants.

Simplicity System Co., Chattanooga, Tenn.

## AUDITORS.

Ernst & Ernst, New York, N. Y.

## RABBIT METAL.

Ryerson & Son, Inc., Jos. T., St. Louis and New York City.

## BACKFILLERS.

National Equipment Corp., (Parsons) Milwaukee, Wis.

## BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

## BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto., Md.  
Baltimore Trust Co., Baltimore, Md.  
Bank of New York & Trust Co., New York City.  
First and Merchants National Bank, Richmond, Va.  
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

## BARGES (Steel.)

American Bridge Co., New York, N. Y.  
McClintic-Marshall Co., Pittsburgh, Pa.

## BARB (Steel, Rounds, Flats, Hexagons and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.  
Gulf States Steel Co., Birmingham, Ala.  
Ingalls Iron Works Co., Birmingham.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Sweet's Steel Corp., Williamsport, Pa.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

## BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

## BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Phoenix Iron Co., Philadelphia, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.

—(Leather, Canvas, Rubber.)  
Charlotte Leather Belting Co., Charlotte, N. C.

—Dressing.  
Charlotte Leather Belting Co., Charlotte, N. C.

—Fasteners.  
Flexible Steel Lacing Co., Chicago, Ill.

—Lacing (Steel Hinges.)  
Flexible Steel Lacing Co., Chicago, Ill.

BILLETS (Basic Open Hearth.)  
Gulf States Steel Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

## BINS (Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.

## BLASTING POWDER and Accessories.

De Ford & Humes & Co., R. L., Wilmington, Del.

## BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

## BOILER REPAIRS.

Finnigan Co., Inc., J. J., Atlanta, Ga.

## BOILERS (New.)

Babcock & Wilcox Co., The, New York.  
Charleston Dry Dock & Machine Co., Charleston, S. C.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Cole Mfg. Co., R. D., Newman, Ga.  
Hedges Walsh Welding Co., Chattanooga, Tenn.  
Lambert Iron Works & Supply Co., Augusta, Ga.  
Schmidt's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.

## —(Old.)

Babcock & Wilcox Co., New York.

## —(Used.)

Delta Equipment Co., Philadelphia, Pa.  
O'Brien Machinery Co., Philadelphia, Pa.

## BOILER SETTINGS.

Babcock & Wilcox Co., New York.  
Brooks-Fisher Co., Atlanta, Ga.

## —Tubes.

Babcock & Wilcox Co., New York.  
National Tube Co., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.

—Tubes (Charcoal, Iron.)  
Reading Iron Co., Reading, Pa.

## BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.  
Progressive Mfg. Co., Torrington, Conn.  
Russell, Burdall & Ward & Son Co., Port Chester, N. Y.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Virginia Bridge & Iron Co., Roanoke, Va.

## —(Track.)

Sweet's Steel Co., Williamsport, Pa.

## BOND BUYERS.

Hanchett Bond Co., Inc., The, Chicago.  
Law & Co., A. M., Spartanburg, S. C.  
Nuveen & Co., John, Chicago, Ill.  
Provident Savings Bank and Trust Co., Cincinnati, Ohio.

## BORINGS (Core.)

Kennedy-Biegger Drilling Co., New York City.  
Mott Core Drilling Co., Huntington, W. Va.  
Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.  
Sprague & Henwood, Inc., Scranton, Pa.

## BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

## BRASS GOODS.

Mueller Co., Decatur, Ill.

## BRICK (Common Building.)

Fried & Co., Inc., Petersburg, Va.

—(Vitrified, Paving.)  
National Paving Brick Assn., Washington, D. C.

—and Clayworking Machy.  
Steele & Sons, J. C., Statesville, N. C.

BRIDGE (Operating Machinery.)  
Earle Gear & Machine Co., Phila., Pa.

## —Slabs.

Kerlow Steel Flooring Co., Jersey City, N. J.

—Stringers, Timber (Creosoted.)  
American Creosote Wks., New Orleans, La.  
Atlantic Creosoting Co., Norfolk, Va.  
Ayer & Lord Tie Co., Chicago, Ill.

## BRIDGES (Steel.)

American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Bristol Steel & Iron Works, Inc., Bristol, Va.  
Carnegie Bridge & Steel Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Roanoke Iron & Bridge Works, Roanoke, Va.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BRONZE (Architectural.)

Cincinnati Mfg. Co., Cincinnati, O.  
Heath Company, J. A., Washington, Ill.

## BUBBLERS.

Bundt-Spence Mfg. Co., Milwaukee, Wis.

## BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.  
Owen Bucket Co., The, Cleveland, Ohio.  
Wellman Engr. Co., Cleveland, O.

## —(Coal.)

Owen Bucket Co., Cleveland, O.

## —(Dredging, Excavating, Sewer, etc.)

Owen Bucket Co., The, Cleveland, Ohio.  
Stuebner Iron Works, G. L., Long Island City, N. Y.  
Wellman Engr. Co., Cleveland, O.

## —(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

## —(Material Handling.)

Owen Bucket Co., Cleveland, O.

## —(Ore Handling.)

Owen Bucket Co., The, Cleveland, Ohio.  
Stuebner Iron Works, G. L., Long Island City, N. Y.

## —(Rehandling.)

Owen Bucket Co., Cleveland, O.

## —(Sand and Gravel.)

Owen Bucket Co., Cleveland, O.  
Wellman Engr. Co., Cleveland, O.

## BUILDERS and Contractors.

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Lockwood Greene Engrs., Inc., Boston.  
Meyer Co., Tighman, Allentown, Pa.  
White Engineering Corp., J. G., New York.

## BUILDING GRANITE

(Finished.)  
North Carolina Granite Corp., The, Mount Airy, N. C.

## BUILDINGS (Industrial.)

Belmont Iron Works, Philadelphia, Pa.  
Blaw-Knox Co., Pittsburgh, Pa.  
Ingalls Iron Works Co., Birmingham.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.

## —(Portable Sheet Metal.)

Birmingham Tank Co., Birmingham.

## BULKHEADS.

Shore-Line Builders, Inc., Jacksonville, Fla.  
Sore Corp., Frederick, New York, N. Y.

## BURLAP.

Fulton Bag & Cotton Mills, Atlanta, Ga.

## BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

## CABLE.

American Cable Co., New York City.

## —(Elevator.)

American Steel & Wire Co., Chicago, Ill.  
Roebbing's Sons Co., John A., Trenton, N. J.

## —and Wire (Electric.)

American Steel & Wire Co., Balto., Md.  
Roebbing's Sons Co., John A., Trenton, N. J.  
Western Electric Co., New York City.

## CALCIUM CHLORIDE.

Grasselli Chemical Co., Inc., Birmingham.

## CAN and Box-Making Machinery

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## CANNING MACHINERY.

Robins & Co., A. E., Baltimore, Md.

## CANVAS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

## CARS (Dump, Industrial, Logging and Mine.)

Southern Iron & Equipment Co., Atlanta.

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United Welding Co., Middletown, O.

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Cincinnati Steel Castings Co., Cincinnati, O.

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Richmond Foundry & Mfg. Co., Richmond, Va.

## —(Chilled Iron.)

Fuller Lehigh Co., Fullerton, Penna.

## —(Gray Iron.)

Fuller Lehigh Co., Fullerton, Penna.  
Glassman Pipe & Fdy. Co., Lynchburg, Va.

Jefferson Foundry Co., Birmingham, Ala.  
Richmond Foundry & Mfg. Co., Richmond, Va.

Salom Fdry. & Mch. Wks., Salem, Va.  
Schmidt's Sons Co., J. S., Macon, Ga.

U. S. Pipe & Foundry Co., Burlington, N. J.

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Salom Fdry. & Mch. Wks., Salem, Va.

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Lankenshimer Co., Cincinnati, Ohio.



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Alpha Portland Cement Corp., Birmingham, Ala.

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Diamond Chain & Mfg. Co., Indianapolis.

**—(Silent Drive.)**

Diamond Chain & Mfg. Co., Indianapolis.

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Andrews Co., A. H. Chicago, Ill.

**CHEMICALS.**

Grasselli Chemical Co., Inc., Birmingham.

**CHEMISTS, CHEMICAL ENGINEERS (Analytical.)**

Froehling & Robertson, Inc., Richmond, Va.

Hunt Co., Robert W., Chicago, Ill.

Longdale Laboratories, Inc., Richmond, Va.

Melgs, Bassett & Slaughter, Phila., Pa.

Moss, Jr., W. Wade, Columbus, Ga.

Pierd Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pittsburgh, Pa.

Southwestern Laboratories, Fort Worth, Tex.

Stillman & Van Sielen, New York.

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Smith & Robertson, Inc., Richmond, Va.

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East Engineering Co., Birmingham, Ala.

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Caldwell Co., Inc., W. E., Louisville, Ky.

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Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

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Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**—Jigs.**

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**—Tipples.**

American Bridge Co., New York, N. Y.

Virginia Bridge & Iron Co., Roanoke, Va.

**—Washers.**

Howard Machine Co., Chas. C., Birmingham, Ala.

**COOKS (Service.)**

Mass. Woodman Valve Co., San Francisco, Calif.

**COKE.**

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

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Southern Drilling Co., Saltville, Va.

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Warner Service Co., Knoxville, Tenn.

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Hornbuckle Contracting Co., Atlanta, Ga.

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Poe Piping & Heating Co., Greenville, S. C.

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Snare Corp., Frederick, New York, N. Y.

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**—(Reinforced Concrete.)**

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Hornbuckle Contracting Co., Atlanta, Ga.

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**—(Sewerage and Waterworks.)**

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Lockwood Greene Engrs., Inc., New York.
- (Public Service Properties.)  
Barstow & Co., W. S., New York City.  
Byllesby Engineering & Management Corp., Chicago, Ill.



Hall, J. Henry, Lexington, Ky.  
Mala, Inc., Chas. T., Boston, Mass.  
White Engineering Corp., J. G., N.Y.  
York.

—(Railroad.)

Hwy. S. E. Monroe, La.

—(Reinforced Concrete Bridges, Buildings, etc.)

Gardner & Howe, Memphis, Tenn.  
Graham & Co., J. E., Baltimore, Md.  
Lockwood Greene Engrs., Inc., New York.  
Mala, Inc., Chas. T., Boston, Mass.  
Steel & Lobby, Knoxville, Tenn.

—(Sanitary.)

Cramer, Robert, Milwaukee, Wis.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiley & Wilson, Lynchburg, Va.

—(Sewage Disposal Plants.)

Cramer, Robert, Milwaukee, Wis.  
McCrory Co., The J. B., Atlanta, Ga.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta, Ga.  
Wiley & Wilson, Lynchburg, Va.

—(Sewerage and Waterworks.)

Cramer, Older & Quinlan, Inc., Chicago.  
Hall, J. Henry, Lexington, Ky.  
Hardway Contracting Co., Columbus, Ga.  
Harrold Engr. Co., C. M., Nashville, Tenn.  
Hills and Youngberg, Jacksonville, Fla.  
White Co., Gilbert C., Durham, N. C.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta, Ga.  
Wiley & Wilson, Lynchburg, Va.

—(Structural.)

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Hills and Youngberg, Jacksonville, Fla.  
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Virginia Bridge & Iron Co., Roanoke, Va.  
Whitman, Requaardt & Smith, Balto., Md.

—(Textile Mills.)

Lockwood Greene Engrs., Inc., New York.  
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Strine & Co., J. E., Greenville, S. C.

—(Transmission Lines.)

Hewitt Engineering Co., Chicago, Ill.

—(Ventilating and Heating.)

Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)

Whitman, Requaardt & Smith, Balto., Md.  
Wiley & Wilson, Lynchburg, Va.

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Dals Engine Co., Grand Haven, Mich.

—(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.  
Superior Engine Co., Springfield, O.

—(Gas and Gasoline.)

Stirling Engine Co., Buffalo, N. Y.

—(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Steam.)

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Lombard Iron Works & Supply Co., Augusta, Ga.  
Shufeldt's Sons Co., J. S., Macon, Ga.

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Young & Selden Co., Baltimore, Md.

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Spring, Chas. Herbert, Greensboro, N. C.

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Beyrus-Erie Co., So. Milwaukee, Wis.  
National Equipment Corp., (Koehring, Parsons) Milwaukee, Wisconsin.  
Northwest Engineering Co., Chicago, Ill.  
Owen Bucket Co., The, Cleveland, Ohio.

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Ohio Power Shovel Co., Lima, Ohio.

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**—(Second-Hand.)**Albert & Davidson Pipe Corp., Brooklyn, N. Y.  
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.  
Central Pipe & Sup. Co., Charleston, W. Va.  
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.  
Hudson Pipe & Supply Co., Bayonne, N. J.  
Machinery Record, Richmond, Va.  
Marine Metal & Supply Co., New York.  
Maryland Pipe & Steel Corp., Baltimore, Md.**—(Spiral Riveted.)**

Taylor Forge &amp; Pipe Wks., Chicago, Ill.

**—(Steel.)**Bethlehem Steel Co., Bethlehem, Pa.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
National Tube Co., Pittsburgh, Pa.  
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.  
Power Piping Co., Pittsburgh, Pa.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.**—(Steel, Large Diameter.)**

Also Products, Inc., New York, N. Y.

**—(Wrought Iron.)**

Reading Iron Co., Reading, Pa.

**—Covering (Cork.)**

United Cork Companies, Lendhurst, N. J.

**—Fittings.**

Georgia Iron Works, Augusta, Ga.

**—Unions and Joints.**

Dart Mfg. Co., E. M., Providence, R. I.

**—Systems (Industrial.)**Moore Pipe & Sprinkler Co., Jacksonville, Fla.  
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.  
Power Piping Co., Pittsburgh, Pa.**PLATES (Steel and Iron.)**American Rolling Mill Co., Middletown.  
Bethlehem Steel Co., Bethlehem, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Central Iron & Steel Co., Harrisburg, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Gulf States Steel Co., Birmingham, Ala.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Tennessee Coal, Iron & Railroad Co., Birmingham.**POLES—(Tubular, Steel.)**Bessemer Galvanizing Works, Birmingham.  
National Tube Co., Pittsburgh, Pa.**POLISHING MACHINERY.**(Wheels, Blocks.)  
Carberundum Co., Niagara Falls, N. Y.**POSTS, (Cast Iron, Railway and Highway.)**

U. S. Pipe &amp; Foundry Co., Burlington, N. J.

**POWER TRANSMISSION MACHINERY.**Diamond Chain & Mfg. Co., Indianapolis.  
Goldens' Fdry. & Mch. Co., Columbus, Ga.  
Scheldt's Sons Co., J. S., Macon, Ga.**PRESSES, (Baling, Cottonseed Oil, Hydraulic and Power.)**Dunning & Bechert Press Co., Inc., Syracuse, N. Y.  
Ripley Foundry & Machine Co., Ripley, O.**—(Metal Stamping.)**

Bliss Co., E. W., Brooklyn, N. Y.

**PRINTERS (Book, Catalog, Job.)**Smith & Son Co., Oscar T., Baltimore, Md.  
Young & Selden Co., Baltimore, Md.**PRODUCER (Gas Machines.)**

Wood &amp; Co., R. D., Phila., Pa.

**PULLEYS (Friction Clutch.)**

Caldwell Co., Inc., W. E., Louisville, Ky.

**—Shafting and Hangers.**

Goldens' Fdry. &amp; Mch. Co., Columbus, Ga.

**PULVERIZED COAL EQUIPMENT.**

Fuller Lehigh Co., Fullerton, Pa.

**PULVERIZERS (See Crushing and Pulverizing Machinery.)****PUMPING MACHINERY.**Fairbanks, Morse & Co., Chicago, Ill.  
Layne & Bowler, Inc., Memphis, Tenn.  
Myers & Bra. Co., The F. E., Ashland, O.  
Virginia Mch. & Well Co., Richmond, Va.**PUMPS (Air.)**Manistee Iron Works Co., Manistee, Mich.  
—(Boiler Feed.)  
DeLaval Steam Turbine Co., Trenton, N. J.  
Manistee Iron Works Co., Manistee, Mich.  
Myers & Bra. Co., The F. E., Ashland, O.**—(Centrifugal.)**Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
DeLaval Steam Turbine Co., Trenton, N. J.  
Fairbanks, Morse & Co., Chicago, Ill.  
Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.**—(Deep Well.)**

Layne &amp; Bowler, Inc., Memphis, Tenn.

**—(Hydraulic.)**

Dunning &amp; Bechert Press Co., Inc., Syracuse, N. Y.

**—(Pulverized Coal.)**

Fuller Lehigh Co., Fullerton, Pa.

**—(Sand and Dredging.)**

Georgia Iron Works, Augusta, Ga.

**—(Steam.)**

Fairbanks, Morse &amp; Co., Chicago, Ill.

**—(Water Works.)**Layne & Bowler, Inc., Memphis, Tenn.  
Manistee Iron Works Co., Manistee, Mich.**PUNCHING AND SHEARING MACHINERY.**Bertsch & Co., Cambridge City, Ind.  
Bliss Co., E. W., Brooklyn, N. Y.  
Whitney Metal Tool Co., Rockford, Ill.**QUANTITY SURVEYS.**

Spring, Chas. Herbert, Greensboro, N. C.

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Newport News Shipbuilding &amp; Dry Dock Co., Newport News, Va.

**RADIATOR ENCLOSURES.**

Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

**RAILINGS (Iron Pipe.)**

Pipe Railing Constr. Co., Long Island City, N. Y.

**RAILROAD Equipment and Supplies (New.)**

Robinson &amp; Orr, Pittsburgh, Pa.

**—Equipment and Supplies. (Used.)**Dyer Co., W. H., St. Louis, Mo.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron and Equip. Co., Atlanta.**—(Frogs and Switches.)**Bethlehem Steel Co., Bethlehem, Pa.  
Robinson & Orr, Pittsburgh, Pa.**RAILROADS — (Offering Industrial, Agricultural and Commercial Opportunities.)**Atlanta and West Point R. R., Atlanta.  
Central of Georgia Rwy., Savannah, Ga.  
Model Land Company, Flagler System, St. Augustine, Fla.  
Norfolk & Western Railway, Roanoke, Va.**RAILS (New and Used.)**Carnegie Steel Co., Pittsburgh, Pa.  
Dyer Co., W. H., St. Louis, Mo.  
Hyman-Michaels Co., Chicago, Ill.  
Perry, Buxton, Doane Co., Philadelphia.  
Robinson & Orr, Pittsburgh, Pa.  
Smith & Co., W. M., Birmingham, Ala.  
Southern Iron & Equip. Co., Atlanta, Ga.  
Sweet's Steel Co., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.**RAILWAYS (Marine.)**

Charleston Dry Dock and Machine Co., Charleston, S. C.

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Whitaker Paper Co., Baltimore, Md.

**REINFORCING for Concrete.**American Steel and Wire Co., Balta, Md.  
Austin Bros. Bridge Co., Atlanta, Ga.  
Carnegie Steel Co., Pittsburgh, Pa.  
Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.**RIVER & HARBOR IMPROVEMENTS, (Dredging, Docks, Wharves, etc.)**Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.  
Kansas City Bridge Co., Kansas City.**RIVETS.**

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Buffalo-Springfield Roller Co., Springfield, O.  
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Gillie Machine Co., Tonawanda, N. Y.  
Universal Crane Co., Lorain, Ohio.**—and Street Material.**Borley & Co., W. W., Roanoke, Va.  
Woodstock Slag Corp., Birmingham, Ala.**—Graders and Scrapers.**Austin-Western Road Machinery Co., Chicago, Ill.  
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Gulf Refining Co., Pittsburgh, Pa.

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Buffalo-Springfield Roller Co., Springfield, O.**—Scarifiers.**Austin-Western Road Machinery Co., Chicago, Ill.  
Buffalo-Springfield Roller Co., Springfield, O.**ROOF INSULATION.**

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Gulf State Steel Co., Birmingham, Ala.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Youngstown Sheet and Tube Co., Youngstown, O.**SAFES.**

York Safe &amp; Lock Co., York, Penna.

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Friend & Co., Inc., Petersburg, Va.  
Georgia Sand & Gravel Co., Augusta, Ga.**SANITARY Drinking Fountains.**

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Earle Gear and Machine Co., Phila., Pa.

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Austin-Western Road Machinery Co., Chicago, Ill.

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Perry, Buxton, Doane Co., Philadelphia.  
Smith & Co., W. M., Birmingham, Ala.**SCREEN CLOTH.**

Seneca Wire &amp; Mfg. Co., Fostoria, Ohio.

**SCREENING (For Concrete and Road Construction.)**

American Limestone Co., Knoxville, Tenn.

**SCREENS (Sand, Gravel, Stone, Coal, Ore, etc.)**Chicago Perforating Co., Chicago, Ill.  
Erdle Perforating Co., Rochester, N. Y.  
Grondler Crusher & Pulverizer Co., St. Louis, Mo.  
Hendrick Mfg. Co., Carbondale, Pa.  
Mundt & Sons, Charles, Jersey City, N. J.  
Universal Crusher Co., Cedar Rapids, Ia.



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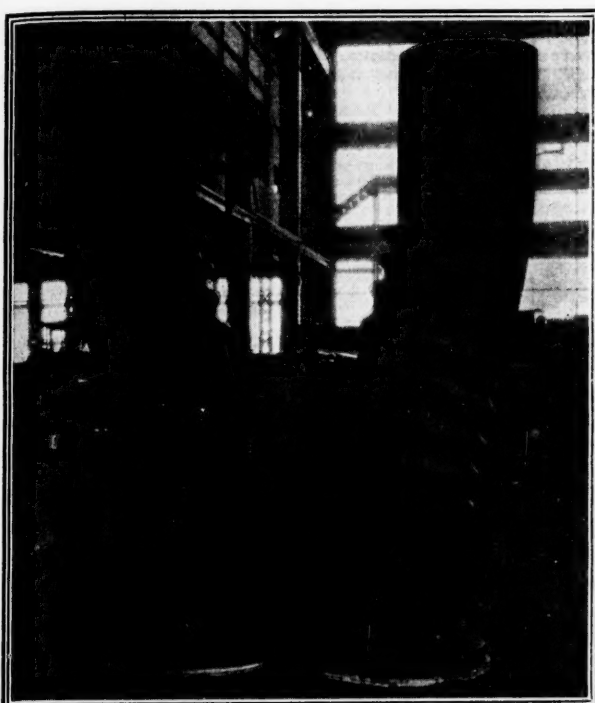
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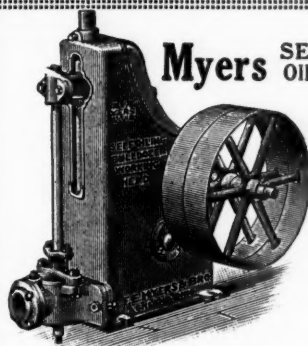
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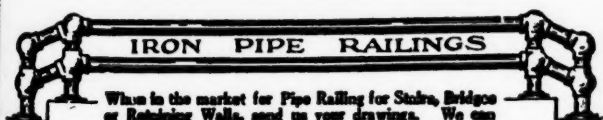
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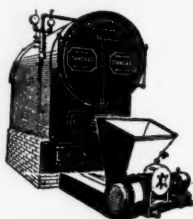
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Lee Clay Products Co., Clearfield, Ky.  
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**SHARPENING Stones.**  
Carborundum Co., Niagara Falls, N. Y.

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Bertsch & Co., Cambridge City, Ind.  
Bliss Co., E. W., Brooklyn, N. Y.  
Whitney Metal Tool Co., Rockford, Ill.  
Yoder Co., The, Cleveland, Ohio.

**—Steel and Iron.**  
American Sheet and Tin Plate Co., Pittsburgh, Pa.  
Bethlehem Steel Co., Bethlehem, Pa.  
Gulf States Steel Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Youngstown Sheet & Tube Co., Youngstown, O.

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Ohio Power Shovel Co., Lima, Ohio.

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Grasselli Chemical Co., Inc., Birmingham.

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Atlanta and West Point E. E., Atlanta.  
Central of Georgia Ry., Savannah, Ga.  
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Galveston, City of Galveston, Texas.  
Missouri-Kansas-Texas Lines, Dallas, Tex.  
Model Land Company, (Flagler System), St. Augustine, Fla.  
Norfolk & Western Railway, Roanoke, Va.  
Parkersburg, W. Va., Board of Commerce.

Reynolds Bros. Lbr. Co., Albany, Ga.  
Seaboard Public Service Co., Alexandria, Va.

Southern Natural Gas Corp., Birmingham.  
Texas Power & Light Co., Dallas, Texas.  
Industrial Commission, Winston-Salem, N. C.

**SLAG, For Concrete.**  
Woodstock Slag Corp., Birmingham, Ala.

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Chicago Bridge & Iron Works, Birmingham.  
Downingtown Iron Works, Downingtown, Pa.  
Hedges Walsh Welding Co., Chattanooga, Tenn.

Inglis Iron Works Co., Birmingham, Ala.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
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Phoenix Iron Co., The, Phila., Pa.  
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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Birmingham, Ala.  
Downingtown Iron Works, Downingtown, Pa.  
Edgewood Welding Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
Phoenix Iron Co., The, Phila., Pa.  
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Carnegie Steel Co., Pittsburgh, Pa.  
Carpenter Steel & Iron Co., Greensboro, N. C.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Crescent Bridge & Steel Co., Chattanooga, Tenn.  
Dietrich Brothers, Baltimore, Md.  
Ingalls Iron Works Co., Birmingham, Ala.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Roanoke Iron & Bridge Works, Inc., Roanoke, Va.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City  
Wood Architectural Iron Works, Louisville, Ky.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

# SULPHATE OF ALUMINA.

Grasselli Chemical Co., Inc., Birmingham.

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Grasselli Chemical Co., Inc., Birmingham.

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# SWINGING ENGINES.

Dale Engine Co., Grand Haven, Mich.

# SWITCHBOARDS, SWITCHES, ETC.

General Electric Co., Schenectady, N. Y.

# SYSTEMS (Business.)

Ernst & Ernst, New York, N. Y.

# TANKS (Air Compressor.)

Titusville Iron Works Co., Titusville, Pa.

# —(Elevated Steel.)

Caldwell Co., Inc., W. E., Louisville, Ky.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Works, Birmingham, Ala.  
Coke Mfg. Co., E. D., Newnan, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Scheidt's Sons Co., J. S., Macon, Ga.  
Virginia Bridge & Iron Co., Roanoke, Va.

# —(Elevated Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.  
Davis & Son, G. M., Palatka, Fla.

# —(Iron and Steel.)

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Birmingham Tank Co., Birmingham, Ala.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Birmingham, Ala.  
Coke Mfg. Co., E. D., Newnan, Ga.  
Downingtown Iron Works, Downingtown, Pa.  
Finnigan Co., Inc., J. J., Atlanta, Ga.  
Lambert Iron Works & Supply Co., Augusta, Ga.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Scheidt's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.  
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# —Mixing.

Also Products, Inc., New York, N. Y.

# —(Pressure.)

Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

# —(Seamless Steel.)

National Tube Co., Pittsburgh, Pa.

# —(Storage, Oil, etc.)

Biggs Boiler Works, Akron, Ohio.  
Birmingham Boiler & Engr. Co., Birmingham, Ala.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Works, Birmingham, Ala.  
Downingtown Iron Works, Downingtown, Pa.  
Ingalls Iron Works Co., Birmingham, Ala.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Titusville Iron Works Co., Titusville, Pa.  
United Welding Co., Middletown, O.

# —(Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.  
Davis & Son, G. M., Palatka, Fla.  
Virginia Mch. & Well Co., Richmond, Va.

# TARPAULINS.

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Fulton Bag & Cotton Mills, Atlanta, Ga.

# TAX SPECIALISTS.

Ernst & Ernst, New York, N. Y.

# TELEPHONE SERVICE.

American Telephone & Telegraph Co.

# TENTS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

# TEXTILE CHEMICALS.

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# TILE (Cork Composition.)

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# —(Cork Flooring.)

Congoleum-Nairn Inc., Kearny, N. J.  
United Cork Companies, Lynchburg, N. J.

# —(Floor.)

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# —(Roof.)

Hood Co., B. Miffin, Daisy, Tenn.

# —(Sewer.)

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# —(Radio.)

Bessemer Galvanizing Works, Birmingham, Ala.

# —(Steel and Wood.)

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Coke Mfg. Co., E. D., Newnan, Ga.

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Sweet's Steel Co., Williamsport, Pa.

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Cleveland Tractor Co., Cleveland, O.  
International Harvester Co. of America, Inc., Chicago, Ill.

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Caterpillar Tractor Co., Peoria, Ill.  
Cleveland Tractor Co., Cleveland, O.

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# —(Portable for Motor Trucks.)

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Moeller Co., Decatur, Ill.  
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# —(Corrosive Liquids.)

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# —(Gate.)

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Lambert Iron Works Co., The, Cincinnati, Ohio.  
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